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THE
ASIATIC SOCIETY OF BOMBAY
Town Hall, Bombay.

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on 01 February, 2020

EAST INDIA (FACTORY INSPECTION).

B 1

RETURN to an Address of the Honourable The House of Commons, dated 25 April 1894;—*for*,

"COPIES of recent Correspondence with the Government of India on the subject of Inspection of Factories, and of the Factory Inspectors' Reports."

India Office,
4 May 1894.

ARTHUR GODLEY,
Under Secretary of State for India.

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(*Mr. Provand.*)

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9 *May* 1894.

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CONTENTS.

From	To	Subject.	Page.
1. Letter from Government of India, No. 14, 22nd March 1893. (with Enclosure.)	Secretary of State.	Circular Letter to Local Governments.	1
2. Letter from Government of India, No. 7, 28th February 1894. (with eight Enclosures.)	Secretary of State.	Forwarding copies of the Provincial Reports on the working of the Indian Factories Act during the year 1892.	6
3. Table - - - - - -	- - -	Giving abstract of factory statistics.	216

[1] 8 V

Copies of recent Correspondence with the Government of India on the subject of Inspection of Factories, and of the Factory Inspectors' Reports.

Letter from the Government of India (Home Department, Judicial) to Her Majesty's Secretary of State for India (No. 14); dated 22 March 1893. (Received 10 April 1893.)

My Lord,

We have the honour to forward, for your Lordship's information, a copy of our Circular Letter, No. $\frac{\text{H}}{561-867}$, dated the 30th June 1892, to Local Governments and Administrations, prescribing an Annual Report on the working of the Factories Act, and requesting Local Governments and Administrations to submit their provincial reports on the 1st July of each year. No such reports had been prescribed till the issue of our Circular of June last. The first reports due are, therefore, those relating to the calendar year 1892, which will reach us about the middle of the current year, and will be forwarded to the India Office, with such remarks (if any) as we may have to make on them, as soon as they have been considered by us.

We have, &c.
(signed) *Lansdowne.*
Roberts.
P. P. Hutchins.
D. Barbour.
A. E. Miller.
H. Brackenbury.
C. B. Pritchard.

(No. $\frac{21}{861-867}$.)

From *C. J. Lyall*, Esq., C.I.E., Secretary to the Government of India, to the Chief Secretary to the Government of Madras; the Chief Secretary to the Government of Bombay; the Secretary to the Government of Bengal, General Department; the Chief Secretary to the Government of the North Western Provinces and Oudh; the Chief Secretary to the Government of the Punjab; the Chief Commissioner of the Central Provinces; the Chief Commissioner of Burma.

Sir, Simla, 30 June 1892.

In continuation of the communication from this Department, No. 429—435, dated the 25th March 1892, I am directed to invite attention to the marginally-noted extract from a Despatch, No. 59 (Statistics), dated the 18th July 1890, from Her Majesty's Secretary of State; and to request that an Annual Provincial Report on the working of the Indian Factories Act in * during each calendar year may be compiled in future under $\frac{\text{the orders of the Local Government}}{\text{your orders}}$ and submitted to this Department on or before the 1st July in each year.

. . "It would be extremely desirable that a yearly volume containing a *résumé* of all factory . . inspectors' reports should, when the new law is in working order, be published by your Government."

* the Madras Presidency.
the Bombay Presidency.
Bengal.
the North Western Provinces and Oudh.
the Punjab.
the Central Provinces.
Burma.

2. The Governor General in Council will for the present leave it to Local Governments and Administrations to determine the precise form in which the

report should be prepared, but, in order to ensure a certain degree of uniformity in the method in which the results are reported from different provinces, the forms of the statements which are annexed to this letter have been prepared in this office, and are now prescribed for adoption by Local Governments and Administrations. These statements should be carefully compiled in accordance with the instructions given on the forms, and should be attached as appendices to the annual provincial report.

3. The district statement (Form I.), which will accompany the reports submitted by district officers for factories in the interior and by the chief inspector or other officer designated by the Local Government for factories within presidency towns, should show the particulars stated in the form in regard to each factory in the district or presidency town which falls within the scope of the Act. The provincial statement (Form II.) will not give particulars of individual factories, but will show the district totals of each district in the presidency or province where factories exist, and the provincial totals in respect of the matters specified therein.

4. The report generally should follow the headings of the Act and of the rules framed thereunder, and should show the extent to which all their provisions have been observed in the factories in the $\frac{\text{Madras}}{\text{Bombay}}$ Presidency / $\frac{\text{Bengal}}{\text{North Western Provinces and Oudh}}$ / the Punjab, &c. - I am to request that the following matters in particular may be fully and adequately dealt with :—

(1.) Inspections.—A summary of the results and a general *résumé* of inspections should be given, as desired by the Secretary of State.

(2.) The sanitary condition of, and sanitary arrangements on, factories.

(3.) The general health of the operatives, especially of the women and children.

(4.) Wages and the general condition of the operatives.—Inspecting officers are not required by the Act to make systematic inquiry into this subject; but any general information which district officers or inspectors may be able to furnish as to the wages and condition of the operatives employed on factories, as compared with other classes of labourers, and in rural tracts with petty cultivators, will possess great interest.

(5.) The employment of women and children.—A paragraph should also be added, giving an account of the work of the certifying surgeons.

(6.) The fencing of machinery and mill gearing.

(7.) Accidents.

(8.) Prosecutions.—Convictions only will be entered in the prescribed statement, but a full account of the prosecutions undertaken under the Factories Act and of their results should be included in the body of the report.

5. I am to request that any further subsidiary instructions which may be necessary for the proper preparation and submission of the annual reports or statements in the $\frac{\text{Madras}}{\text{Bombay}}$ Presidency / $\frac{\text{Bengal}}{\text{North Western Provinces and Oudh}}$ / the Punjab, &c. may be issued under the orders of His Excellency the Governor in Council / His Honour the Lieutenant-Governor (and Chief Commissioner).

6. The Report for 1892 should be submitted to the Government of India by July 1893. It may not now be found practicable to make arrangements for procuring all the information required for the report and statements for the current year; but the Government of India trust that every endeavour will be made to complete them as far as possible.

I have, &c.
(signed) *C. J. Lyall,*
Secretary to the Government of India.

Form I.—Statement to accompany Annual District Report on the Working of the

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.*						Total Columns 8 and 11.	Whether the Factory is worked mainly (1) by shifts, or (2) by Mid-day Stoppages, or (3) otherwise.†	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (c) or (4) under Section 5 B (3) (d) of the Act or (5) otherwise worked.†
					Adults.			Children.					
					Males.	Females.	Total.	Males.	Females.	Total.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
District Totals (6 to 12, and 16 to 23).													

Note.—Columns 2 to 14 of this Statement will be compiled from half-yearly Return I, submitted by occupiers (prescribed in the offices of Magistrates and Special Inspectors.

* The mean of the figures shown in the two half-yearly statements to be entered in these columns.

† In the case of factories worked "otherwise" full details to be given, *e.g.* (as to column 13), whether the factory is exempted the provisions of the law were not complied with and the steps taken to enforce compliance.

‡ Accidents to be shown as "Serious" where the injury caused results in or is equivalent to the loss of an eye or limb, or is so

§ The number of factories of each class to be separately shown.

Factories Act. Name of District (or Presidency Town) _____

Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
Fatal.	Serious.	Minor.	TOTAL.	By Magistrates	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	TOTAL.	
15	16	17	18	19	20	21	22	23	24
									ABSTRACT (DISTRICT TOTALS).
									Total No. of Factories.
									Cotton Mills.
									Jute Mills.
									Woollen Mills.
									Paper Mills.
									Breweries.
									Flour Mills.
									Cotton cleaning Factories.
									Cotton Presses.
									Jute Presses.
									Leather Works.
									Iron Works or Foundries.
									Sugar Works.
									Printing Presses, &c.?
									TOTAL.
									Number of Factories inspected once during year.
									" " twice " "
									" " three times "
									" " more than three times "

Home Department Notification No. 428, dated 25th March 1892). Columns 15 to 23 will be compiled from the Registers kept (a under Section 6 A (2), or the reasons for which shifts or stoppages were not enforced; and (as to Column 14) the reasons for which severe as to incapacitate the labourer from work for 21 days or more.

FORM II.—Statement to accompany Annual Provincial Report on the Working

	Number of Factories within the scope of the Act.																		Number of Factories entered in Columns 2 to 16.			Number of Factories entered in Columns 2 to 16.							Average Daily Number of Operatives employed on the Factories entered in Columns 2 to 16.						
																						Inspected during the Year.							Adults.			Children.			
Name of District.	Cotton Mills.	Jute Mills.	Wooden Mills.	Paper Mills.	Breweries.	Flour Mills.	Cotton-cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Iron Works or Foundries.	Sugar Works.	Printing Presses.					Other Factories within scope of Act.	Total of Columns 2 to 15.	In which Steam Power is used.	In which Steam Power is not used.	Total Columns 17 and 18.	Once only.	Twice (but not three times).	Three times.	More than three times.	Total Columns 20 to 23.	Not inspected during the Year.	Total Columns 24 and 25.	Males.	Females.	Total.	Males.	Females.	Total.	Total of Columns 29 and 32.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	14 (a)	14 (b)	14 (c)	14 (d)	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Provincial Total ...																																			

Columns 1 to 47 of this statement should be prepared from the statements accompanying the district Annual Reports on the working of the statement. If the systems of working referred to in Columns 34 to 43 have altered during the year in any factory the system in force at the end Districts and by the Chief Inspector or other officer designated by the Local Government in respect of Presidency Towns.

After Column 14 should be added as many columns [14 (a), 14 (b), 14 (c), &c.] as are necessary for showing any classes of factories other than or more in a Province, should be separately shown. Specially important industries should be separately shown, even if there are less than ten

The totals of Columns 16, 19, 26, 37, 43, should agree; or the differences should be fully explained.

LETTER from the Government of India (Home Department, Judicial) to Her Majesty's Secretary of State for India (No. 7); dated 28 February 1894. (Received, 19 March 1894.)

My Lord,

IN continuation of the Despatch from the Government of India, No. 14 (Judicial), dated the 22nd March 1893, we have the honour to forward the Reports on the working of the Indian Factories Act, XV. of 1881 (as amended by Act XI. of 1891), in the Provinces noted in the margin during the year 1892.

Madras.
Bombay.
Bengal.
North-Western Provinces and Oudh.
Punjab.
Central Provinces.
Burma.

2. We have carefully considered these Reports, but the conditions under which industries are carried on and operatives are employed in different factories in the several Provinces are so widely different that we have not thought it advisable at present to tabulate or compare the results.

It will, however, be observed that there are only 653 factories (including seasonal factories) in all the Provinces (omitting Assam); they employ on an average nearly 317,000 hands daily, of whom nearly 43,600, or 13·7 per cent., are women, and less than 19,000, or 6 per cent., are children under 14.

No

of the Factories Act. Name of Presidency or Province

Number of Factories entered in Columns 2 to 16 worked mainly by				Number of Factories entered in Columns 2 to 16.						Number of Accidents during the Year on Factories entered in Columns 2 to 16.				Number of Persons Convicted during the Year in respect of Factories entered in Columns 2 to 16.												REMARKS.
				On which general Holiday ordinarily given.		Exempted								Under Section 15 (1) of the Factories Act, Clauses												
Shifts or Sets.	Midday Stoppages.	Otherwise.	Total of Columns 34 to 36.	On Sundays.	On varying Week Days.	Under Section 5 B (2) (c).	Under Section 5 B (2) (d).	Worked "otherwise," i.e., not falling under Columns 38 to 41.	Total Columns 38 to 42.	Fatal.	Serious.	Minor.	Total.	a	b	c	d	e	f	g	h	i	Total (a) to (i).	Under Section 15 (3) of Factories Act.	Total Columns 57 and 58.	
34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Factories Act, and the instructions given on the forms of those statements should, so far as applicable, be followed in the preparation of this of the year should be shown in these columns. Columns 48 to 59 should be prepared from statistics specially furnished by District Officers in respect of those specified in Columns 2 to 14 of which any considerable number are worked in any Province. Any classical factories of which there are ten factories.

No report has been received from Assam for 1892. In that Province there are very few factories, other than tea-gardens, which are regulated by a special law (Act I. of 1882), and are expressly exempted by the Factories Act from its operation. Reports from this Province will, however, be submitted in future years.

3. The most important of the reports submitted are those which deal with the condition of the operatives. Your Lordship will observe that there is a general consensus of opinion that, in respect of health, wages, and material prosperity, factory hands are, on the whole, better off than persons of the corresponding classes not employed on factories.

The reports show that the sanitary condition of, and sanitary arrangements on, factories are, as a rule, satisfactory, and that the provisions of the Act and rules have been generally complied with.

4. We propose to issue instructions regarding the desirability of more frequent inspections, especially by medical officers, and of a fuller investigation of accidents, which we regret to say are more numerous than they should be. As, however, the rules under the Factories Act of 1891 were only introduced during 1892 in most Provinces, the results of inspections during the year are, on the whole, not unsatisfactory.

5. With reference to paragraph 2 of your Despatch of 1st June 1893, we desire to say that it has not been considered necessary to issue executive orders of the nature of general instructions to inspectors, inasmuch as the Act and the rules issued thereunder, which it is the duty of these officers to enforce, clearly indicate the matters to which their attention should be directed. Copies of the rules for each Province (except Assam, where they have not yet been finally issued) were forwarded to the India Office with the Despatches from the Government of India noted in the margin.

No. 14 (Judicial), dated 2nd June 1892.
No. 12 (Judicial), dated 9th August 1892.
No. 27 (Judicial), dated 30th November 1892.
No. 12 (Judicial), dated 15th March 1893.

We have, &c.
(signed) *Elgin.*
G. S. White.
A. E. Miller.
H. Brackenbury.
C. B. Pritchard.
J. Westland.
A. P. MacDonnell.

(No. 1448 (Judicial), dated Ootacamund, 17 July 1893.)

From the Honourable *J. F. Price*, Chief Secretary to the Government of Fort St. George, to the Secretary to the Government of India, Home Department.

As requested in Mr. Lyall's letter, dated 30th June 1892, No. 861—11, Judicial, I am directed to forward a review and summary of the Reports of the Inspectors of Factories for 1892. The statement in Form II. prescribed in your letter is also forwarded.

EXTRACT from the Proceedings of the Government of Madras, Judicial Department (No. 1447); dated 17 July 1893.

Read again—

G.O., dated 22nd July 1892, No. 1315, Judicial.

Abstract.—Communicating to certain officers, with instructions, letter from the Government of India, requesting that an annual report on the working of the Indian Factories Act in the Madras Presidency during the calendar year may be compiled and submitted to the Government of India.

Read also the following papers:

No. 20, dated Vizianagram, 21 February 1893.

From *R. H. Shipley*, Esq., Acting Principal Assistant Magistrate, Vizianagram, to the District Magistrate, Vizagapatam.

I HAVE the honour to submit my report on the working of the Gunny Factory at Chittivalasa for the year 1892 in the form prescribed in paragraph 5 of G.O., dated the 19th December 1891, No. 2568, Judicial.

2. The factory belongs to Messrs. Arbuthnot & Co. During the year under report it was inspected twice, once by me and once by the general duty deputy magistrate, the then officer in charge of the division, and the dates of inspection were as under:—

(1.) On the 11th April 1892, between 7 and 8 a.m.

(2.) " 14th December 1892, between 8 and 9 a.m.

O

On each occasion the manager of the factory was present at the time of inspection.

3. In the factory jute is cleaned, twined and woven, and eventually made into gunny bags. The engines are worked by steam with 77 nominal and 220 actual horse power.

4. The factory was closed on 10 English and nine native holidays, besides Sundays during the year. The working hours from April to October are 10 hours and 40 minutes, and from November to March 11 hours per diem, except on Saturdays, when the machinery is stopped at 4.30 p.m., allowing an interval of half-an-hour at noon.

5. The factory is generally whitewashed and cleaned once a year. The whitewashing for the year 1892 was commenced on the 24th November 1892 and completed on the 26th January 1893.

6. The latrines were kept clean by being washed every day with hot water from the engine.

7. The ventilation of the building is good.

8. The temperature in the working room on the dates of inspection was as follows :—

On the 11th April 1892 - - - -	85°
,, 14th December 1892 - - -	70°

9. There were seven accidents during the year, as detailed below :—

Names of Persons.	Nature of Injury.	Date of Injury.	Date of Return to Duty.
1. Dukka Andanna - - - - - -	Not serious -	23rd Jan. 1892 -	8th February 1892.
2. Challa Narsu - - - - - - -	Ditto -	27th Feb. ,, -	31st March ,,
3. Jearu Chinaia - - - - - - -	Ditto -	16th June ,, -	4th July ,,
4. Alamanda Polu - - - - - -	Ditto -	30th ,, ,, -	1st ,, ,,
5. Pandiri Tammadu - - - - - -	Ditto -	6th July ,, -	1st September ,,
6. Madabothula Appadu - - - - -	Ditto -	28th ,, ,, -	12th ,, ,,
7. Sontana Ramudu - - - - - -	Ditto -	6th Oct. ,, -	25th October ,,

10. The machinery has been properly fenced and protected.

11. Certificates of age were granted by the civil apothecary at Bimlipatam in all doubtful cases of adults before their admission into the factory. They were called up and examined by me at the inspection.

12. Registers C and D are not maintained, as no children below 12 years are employed in the factory.

13. A notice of daily working hours and a list of holidays have been set up in an open place in the factory, and printed copies of the rules with Telugu translations have been posted on the outer walls of the office room.

14. Register A, which is required to be kept in my office under Rule 2, has been properly maintained.

15. The number of operatives in the factory during the year was 723.

RETURN RELATING TO

No. 221, dated Vizagapatam, 7 March 1893.

Endorsed by the District Magistrate of Vizagapatam.

Submitted to Government.

2. There were seven accidents during the year, but they were not of a serious nature.

FORM I.—STATEMENT to accompany Annual District

Name of District (or Presidency Town)—

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	AVERAGE DAILY NUMBER OF OPERATIVES EMPLOYED.							Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.
					Adults.			Children.			TOTAL Columns 8 and 11.	
					Males.	Females.	TOTAL.	Males.	Females.	TOTAL.		
1	2	3	4	5	6	7	8	9	10	11	12	13
–	Gunny Factory, Chitti-valasa.	Jute Spinning and Weaving.	Steam.	220 Horse-power.								Mid-day stop-pages.
–	–	–	–	–	642	81	723	–	–	–	723	—

No. 29, dated Madras, 17 March 1893.

From Colonel *H. W. H. Cox*, Commissioner of Police, to the Chief Secretary to the Government of Madras.

I HAVE the honour to submit the annual report for the year 1892 of the Deputy Commissioner of Police as Inspector of Factories in the City of Madras.

No. 35, dated Madras, 15 March 1893.

From *S. D. Simpson*, Esq., Deputy Commissioner of Police and Inspector of Factories, Madras, to the Commissioner of Police, Madras.

I HAVE the honour to submit my annual report on the working of the Factory Act during the calendar year 1892.

2. There are in all sixteen registered factories in the city. Four of them, marginally noted, were brought on my register during the year. Besides these registered factories there are others, which do not fall within the scope of the Act, as the number of operatives employed in

1. Government Printing Press.
2. Lawrence Asylum Press.
3. Basin Foundry.
4. Reliance Foundry.

No. 1,316, dated Vizapagatam, 5 May 1893.

From *W. A. Willock, Esq.*, District Magistrate, Vizagapatam, to the Chief Secretary to the Government of Madras.

WITH reference to your telegram of the 27th ultimo, I have the honour to submit herewith the statements called for, prepared in the forms prescribed in G.O., dated 22nd July 1892, No. 1,315, Judicial.

Report on the Working of the Factories Act.

Vizagapatam District.

Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.				
	Fatal.	Serious.	Minor.	TOTAL.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	TOTAL.
14	15	16	17	18	19	20	21	22	23
On Sundays.		Persons absent from work beyond 21 days.							
——	-	3	4	7	-	2	-	-	2

in each is below the required number; however, they are also being visited and will in time be brought on the register.

3. The registered factories were visited by me during the year, as shown in appendix.

4. *Accidents.*—There were 65 accidents this year against 51 last year. Form I. shows the number in each factory. Of these, one proved fatal, and eight others somewhat of a serious nature, such as fractured arms and legs and the loss of fingers. Mr. L. L. Wickham, Superintendent of the Public Works Workshops, lost three fingers of his left hand while working at what they call a "General Joiner." An inquest was held in the fatal case and the verdict was, "Death from concussion of the brain caused by the end of a leather strap of machinery striking him on the head accidentally."

5. The operatives employed in the mills are in good condition. They are, I consider, well paid and earn as a rule more than the ordinary labourers. For instance, jobbers get from R20 to R25, mechanics R15, spinners R15, roller coverers R10 to 12, men in the engine and blow rooms R8 to 9, piecers R7, and those in the card R7 per mensem.

6. Children in the throstle-bobbin and reeling departments earn from R4 to 6 per mensem.

FORM I.—Statement accompanying Annual Report on the

Presidency Town,

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	AVERAGE DAILY NUMBER OF OPERATIVES EMPLOYED.						
					Adults.			Children.			TOTAL Columns 8 and 11.
					Males.	Females.	TOTAL.	Males.	Females.	TOTAL.	
1	2	3	4	5	6	7	8	9	10	11	12
1	Gun Carriage Factory, New Town, Madras.	Ordnance and miscellaneous works for army service.	120 Horse-power boilers - -	8	1,373	2	1,375	–	–	–	1,375
			120 Horse-power steam engines -	8							
2	Southern India Spinning and Weaving Mill, Rayapuram	Spinning yarn	80 Horse-power engine - - -	1	711	12	723	–	–	–	723
			30 Horse-power engine - - -	1							
3	Harbour Works, North Beach.	Making and depositing concrete blocks.	40 Horse-power stationary engines -	2	334	2	336	–	–	–	336
			8 Horse-power travelling cranes -	3							
			10 Horse-power titan cranes - -	3							
			12 Horse-power wave-breaker - -	1							
			Loco-engines drawing 200 tons - -	4							
			Loco-engines drawing 150 tons - -	2							
			1 Slotting machine; drilling machine	2							
4	Napier Works, Korookoopet.	General engineering.	Engine and boiler, 80 horse-power -	1	290	–	290	–	–	–	290
5	Public Works Workshops, Seven Wells, Madras.	Miscellaneous kinds of work.	10 Horse-power stationary engines with boilers.	3	433	2	435	–	–	–	435
6	United Spinning and Weaving Mill, Chulay.	Spinning cotton twist.	Compounding engine of 300 nominal horse-power.	1	687	36	723	50	2	52	775
7	Buckingham Mill, Perambore.	Cotton spinning.	Steam engine, 700 horse-power - -	1	1,248	93	1,341	275	34	309	1,650
			Steam engine, 600 horse-power - -	1							
8	Carnatic Mill, Perambore.	Cotton spinning.	Steam engine, 1,000 indicated horse-power.	1	1,223	51	1,274	86	–	86	1,360
9	Cement Works, Korookoopet.	Manufacture of cement, shell lime, bricks, and tiles.	Horizontal engine, 30 horse-power -	1	141	51	192	–	–	–	192
			Horizontal engine, 20 horse power -	1							
			Horizontal engine, 8 horse-power -	1							
10	Bee Hive Foundry, Popham's, Broadway.	Iron and brass foundry.	Horizontal engine of 12 horse-power supplied with steam from a vertical boiler of 12 horse-power.	1	157	–	157	–	–	–	157
11	Simpson and Co., Mount Road.	Coach building.	Steam engine, 10 horse-power - -	1	242	–	242	15	–	15	257
12	Paddy Grinding, Cleaning and Oil Manufactory, Trivatore High Road.	Paddy grinding and cleaning and manufacturing oil.	Steam engine, 20 horse-power - -	1	160	–	160	–	–	–	160
			Steam engine, 12 horse-power - -	1							
			Steam engine, 8 horse-power - -	2							
			Boiler and engine, 14 horse-power -	1							
			Boiler and engine, 12 horse-power -	1							
13	Reliance Foundry, Yagatha Covil Street.	Iron and brass-founding.	Engine and boiler, 6 horse-power -	1	245	–	245	–	–	–	245
14	Government Printing Press, Mint Buildings.	Printing, binding, and type-founding.	Horizontal engine, 8 horse-power -	1	847	6	853	–	–	–	853
15	Lawrence Asylum Press, Mount Road.	Printing, binding, and type-founding.	Fixed under type compound steam engine, 12 horse power.	1	351	–	351	–	–	–	351
16	Basin Foundry, near Buckingham Canal, Tondiarpet.	Iron-founding.	Steam engine, 12 horse-power - -	1	65	5	70	–	–	–	70
			Steam engine, 8 horse-power - -	1							
			TOTAL -	–	8,507	260	8,767	426	36	462	9,229

Working of the Factories Act.

Madras.

Whether the Factory is worked mainly (1) by Shifts, (2) by Midday Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.
		Fatal.	Serious.	Minor.	Total	By Inspector of Factories.
13	14	15	16	17	18	19.
Continuous work from 8 a.m. to 4 p.m.	Sundays and holidays	–	–	1	1	3
Midday stoppage	Sundays and festival days	–	1	5	6	4
Ditto	Sundays and commercial holidays	–	1	7	8	3
Ditto	Ditto	–	1	–	1	3
Ditto	Sundays and Government holidays	–	1	5	6	3
Adults by midday stoppage and children by shifts.	Sundays, or on varying week days	1	1	2	4	3
Stoppage	Sundays and festival days	–	–	6	6	3
Shifts	Ditto	–	2	17	19	3
Stoppage	Ditto	–	–	2	2	3
Ditto	Ditto	–	–	2	2	3
Ditto	Sundays and commercial holidays	–	–	2	2	3
Ditto	Sundays and festival days	–	–	1	1	3
Ditto	Sundays and other holidays	–	–	7	7	3
Ditto	Ditto	–	–	–	–	2
Ditto	Ditto	–	–	–	–	2
Ditto	Sundays and festival days	–	–	–	–	1
		1	7	57	65	45

No. 371 Magte., dated Coimbatore, 23 March 1893.

From *J. Sturrock*, Esq., District Magistrate of Coimbatore, to the Chief Secretary to the Government of Madras, Judicial Department.

I HAVE the honour to submit herewith copies of the reports received from the Sub-Divisional Magistrates of Coimbatore and Pollachi on the working of the Indian Factories Act, XV. of 1881, as amended by Act XI. of 1891, together with copies of the statements prescribed in Paragraph 2 of G. O., No. 1315, dated 22nd July 1892, Judicial Department.

(1) The Coimbatore Spinning and Weaving Mill Company (Limited).
(2) The Tirupúr Cotton Cleaning and Pressing Company.

2. The marginally-noted companies are the only factories in the district that come under the purview of the Act.

3. Factory No. 1 was inspected thrice by the Sub-Divisional Magistrate and twice by the medical officer. Factory No. 2 was registered only on the 13th October last, and hence it was inspected only once during the year under report. The remarks of the inspecting officers have been duly communicated to the managers of the factories. The defect pointed out by the medical officer at his first inspection of Factory No. 1 has been rectified. The defects noticed by the Sub-Divisional Magistrate of Pollachi as regards Factory No. 2 will be rectified in due course, as it was only recently registered, as noted above.

4. The sanitary condition of the factories and sanitary arrangements in connection with them are good and, indeed, excellent as regards Factory No. 1, but there is no latrine in Factory No. 2. Steps have been taken to have one constructed.

5. The general health of the operatives, especially of the women and children, was good.

6. The Sub-Divisional Magistrates have not reported as to the wages of the operatives as compared with other classes of labourers, though the Sub-Divisional Magistrate of Coimbatore has stated that their work is suitably compensated with wages. Their attention is now drawn to the views of the Government of India (as regards furnishing this information) recorded in Government Order referred to in paragraph 1.

7. The maximum number of women and children employed on any day during the year was 151 and 186 in Factory No. 1, and 23 and nil in Factory No. 2. Two boys and a girl, who were found in No. 2 by the inspecting officer, have been dispensed with for want of medical certificates in Form B. No children under the age of nine were employed in any of the factories.

8. The machinery is properly fenced in both the factories, but the big fly-wheel in Factory No. 2 requires to be securely fenced.

9. There were no accidents during the year under report.

10. There were no prosecutions under the Act.

11. The other provisions of the Act have been duly complied with.

No. 35, dated 20 March 1893.

From *J. Sturrock*, Esq., District Magistrate in charge of Head Assistant Magistrate's Division, Coimbatore, to the District Magistrate of Coimbatore.

I HAVE the honour to submit my report on the working of the Cotton Cleaning and Pressing Company Factory, Tirupúr, for the year 1892.

2. The factory is the only one that has been placed in the register under the Factories Act only on 13th October last.

3. The

3. The factory was inspected only once during the year under report.

4. There were only three children without the required medical certificate in Form B. It is since reported that those children have been dismissed. Hence no children are now employed in the factory.

5. There is a good supply of water kept for drinking purposes. The river being near, the coolies go there to wash. Ventilation and accommodation are good. There was no latrine at the time of inspection. The agent was asked to put up one as soon as possible.

6. The working hours are from 7 to 6, with an interval of one hour from 12 to 1 for food and rest.

7. No prosecutions were ordered during the year for offences under this Act.

8. There were no accidents during the year.

9. The Manager has been requested to put up copies of the rules in a conspicuous place. The requirements of the Act in other respects are complied with.

FORM 1.—STATEMENT showing the working of the Factories

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	AVERAGE DAILY NUMBER OF OPERATVIES EMPLOYED.							Whether the Factory is worked mainly (1) by Shifts, or (2) by mid-day Stoppages, or (3) otherwise.
					Adults.			Children.			TOTAL of Columns 8 and 11.	
					Males.	Females.	TOTAL.	Males.	Females.	TOTAL.		
1	2	3	4	5	6	7	8	9	19	11	12	13
1	Cotton Cleaning and Pressing Company of Messrs. Binney and Co., Madras, Tirupûr.	Cotton pressing.	40 horse-power steam.	40 horse-power.	22	31	53	—	—	—	53	7 to 12 a.m. and 1 to 6 p.m.

No. 64 Mis., dated Coimbatore, 1 March 1893.

From *M. R. Ry. T. V. Narayanasami Aiyer*, Avergal, Deputy Magistrate, Coimbatore, to the District Magistrate of Coimbatore.

I HAVE the honour to submit my report on the working of the Factories Act, XV. of 1881, as amended by Act XI. of 1891, together with the statements prescribed in G.O., dated 22nd July 1892, No. 1315, Judicial.

2. The only factory in my division falling within the scope of the Act is "The Coimbatore Spinning and Weaving Mill Company (Limited)," situated in Coimbatore town.

3. I inspected the factory twice during the year, and my predecessor, Mr. Todhunter, inspected it during the early part of the year once, making in all three inspections during the year, as required by Rule 8.

4. The number of children, 233 and 187, worked on the 8th April and 24th December 1892, respectively, consists of two batches of half the children, one batch working in the morning, and the other and different batch in the evening. The number examined, 110 and 87, are the children of one batch present at inspection.

5. The factory has been inspected by the medical officer twice during the year. The defect noticed by him at his first inspection in regard to the keeping of Register C. has been rectified, and the other remarks made by the inspecting officers are duly noted in the accompanying statement No. II. No children under the age of nine are employed in this factory, and the children allowed to work half a day as required by Clause 3, Section 7 of the Act. The other provisions of Sections 7, 8, and 9 are duly complied with.

6. The

in the Head Assistant Magistrate's Division, Coimbatore, for 1892.

Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week days, or (3) whether Factory exempted under Section 5 B (2) (*c*) or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					Remarks
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
General holidays and Sundays.	—	—	—	—	One	—	—	—	One.	—

6. The machinery is properly fenced, and no accidents of any nature happened during the year.

7. The ventilation and sanitation of the factory are in excellent condition, and the factory owners have recently erected a durable latrine for the use of the operatives.

8. No prosecution during the year has been ordered for the offences under the Factories Act.

9. Only males are employed about the machinery, and the women and children are being employed at other places.

10. The general condition of the operatives are healthy, and their work is suitably compensated with wages.

11. A file of certificates in Form B. is being properly kept in the factory.

12. On the publication of the new rules framed under Act XI. of 1891, I gave notice to the managers of all seven factories in my division of my intention of placing them in my Register of Factories, Form A. Six of them took objections to the same, and I finally decided that they did not fall under the scope of the Factories Act.

13. A Register in Form A., as required by Rules 2 and 10, has been duly maintained in my office, and the copies of remarks passed by me during the course of inspection have been communicated to the occupier as laid down in Rule 11.

14. The working hours are from 6 a.m. to 12 noon and from 1 to 7.30 p.m., with an interval of one hour for food and rest from 12 to 1 p.m., children under 14 working half time only.

FORM I.—STATEMENT to accompany Annual Report on the working of the

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	AVERAGE DAILY NUMBER OF OPERATIVES EMPLOYED.							Whether the Factory is worked mainly (1) by Shifts, or (2) by mid-day Stoppages, or (3) otherwise.
					Adults.			Children.			Total of Columns 8 and 11.	
					Males.	Females.	Total.	Males.	Females.	Total.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1	Coimbatore Spinning and Weaving Mill Company, Limited, Coimbatore.	Cotton spinning.	Steam engine.	70 nominal horse-power.	328	140	468	156	22	178	646	By mid-day stoppages.

No. 470, dated Tinnevelly, 31 March 1893.

From *G. S. Forbes*, Esq., District Magistrate of Tinnevelly, to the Chief Secretary to the Government of Madras.

I HAVE the honour to report on the working of the Indian Factories Act (XV. of 1881, as amended by Act XI. of 1891) in the district for the calendar year 1892.

2. Of the four factories mentioned in the last year's report, the Tuticorin Cotton Press Company (Limited) stopped working in 1891, and the business finally wound up in 1892. Two new factories came within the scope of the Act, and thus the five factories named in the margin were on the register during the year; the first two being in the joint magistrate's, the third in the head assistant magistrate's, and the fourth and fifth in the deputy magistrate's division. The reports of these officers are enclosed. The statement appended to the report shows the dates of inspections, with the results.

1. The Coral Mills Company, Tuticorin.
2. Sugar Factory, Tuticorin.
3. Cotton Spinning Factory, Pápanásam.
4. The Kóvilpatti Spinning Company, Limited.
5. Tinnevelly Cotton Press Company (Limited), at Sattúr.

3 *Inspections.*—The Coral Mills Company at Tuticorin, which was at work during the whole year, was inspected only twice. There were three divisional officers during the year, and the responsibility for non-inspection rests with Mr. Hewetson. The Cotton Press Company at Sáttúr was not inspected by the deputy magistrate, Northern Division, as the mills were stopped shortly after being brought on the register. But the deputy magistrate's excuse is inadmissible as he ought to have seen it was brought on the register long before it was so brought. In the cotton factory at Pápanásam it was found that the old rules and registers were exhibited and maintained. These defects have been since remedied.

4. *Sanitary Condition and Sanitary Arrangements.*—The sanitary condition and arrangements of the Coral Mills, the Pápanásam Factory, and the Kóvilpatti Mills (Nos. 1, and 3, and 4) are reported to be on the whole satisfactory, and improvements are being introduced at Kóvilpatti. The state of the other two have not been reported on.

5. The

Factories Act in the Division of Coimbatore, *vide* G.O. No. 1,315, dated 22 July 1892.

Whether a General Holiday ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					Remarks.
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
The Mill is closed every Sunday throughout the year, and also native feast day, about 14 days.	None	None	None	None	3	—	2	—	5	—

5. The general health of the operatives is reported to be good. The rate of wages compare favourably with those earned by the ordinary day labourers.

6. Women and children were employed only in two factories. Sufficient rest and recreation appear to have been allowed. The only work done by the certifying surgeons appears to have been the granting of certificates of the age of children.

7. *Fencing*—The machinery in all the factories appears to have been properly fenced. A suggestion made by the acting sub-collector in connection with an accident in the sugar mills at Tuticorin was withdrawn on the nature of the accident and the position of the machinery being more clearly explained to him.

8. *Accidents.*—There were in all six accidents reported during the year; one was fatal, three were serious, and the remaining two were of a minor nature. The fatal and serious accidents are described in the report of the joint magistrates.

9. No prosecutions were instituted under the Act during the year.

STATEMENT to accompany Annual District Report

Name of District (or

	Serial No. of Factory.	Name (and locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average daily Number of Operatives employed.							Whether the Factory is worked mainly (1) by Shifts, or (2) by midday Stoppages, or (3) otherwise.
						Adults.			Children.				
						Males.	Females.	Total.	Males.	Females.	Total.	Total Columns 8 and 11.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
Jt. Magte.	1	Coral Mills Company (Limited), Tuticorin.	Spinning cotton.	Steam.	600 horse power.	550	230	780	—	—	—	780	By midday stoppages.
Jt. Magte.	2	Sugar Factory Tuticorin.	Refining sugar.	Steam.	3 engines.	113	—	113	—	—	—	113	By midday stoppages and employment of coolies who relieve each other every six hours.
Hd. Asst. Magte.	3	Tinnevelly Mills Company, Pápanásam.	Spinning cotton.	Water power.	500 horse power.	267	121	388	99	—	99	487	By midday stoppages.
Dy. Magte.	4	Kóvilpatti Spinning Company (Limited).	Spinning cotton and manufacturing yarn.	Steam.	500 horse power —only 300 horse power used.	218	92	310	186	33	219	529	By midday stoppages.
Dy. Magte.	5	Tinnevelly Cotton Press Company, Sáttúr.	Pressing cotton.	Steam.	18 horse power.	57	27	84	—	—	—	84	By midday stoppages.
		District Totals (6 to 12, and 15 to 23) - -				1,205	470	1,675	285	33	318	1,993	

No. 53, dated Tinnevelly, 24 March 1893.

From *W. B. Ayling*, Esq., Acting Head Assistant Magistrate, Tinnevelly, to the District Magistrate, Tinnevelly.

I HAVE the honour to submit my report on the working of the Factories Act in this division for the year 1892. There is only one factory in this division, viz., "The Tinnevelly Mills Company, Limited," at Pápanásam, Ambásamudram taluk.

2. The factory was inspected thrice during the year under report—by Mr. Murdoch on 25th January 1892, by Mr. Dutt on 12th May 1892, and by myself on 15th December 1892. Copies of the inspection notes made are herein enclosed.

3. The building is clear and well-built, and sufficiently ventilated. Sanitary arrangements are satisfactory. The general health of the operatives appears to be good.

4. The women and children employed in the factory have sufficient intervals for rest and recreation. The machinery appears to have all its dangerous portions securely fenced. The notice in Form F is put up in a conspicuous place.

on the working of the Factories Act.

Presidency Town)—*Tinnevelly.*

Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B 2 (*c*), or (4) under Sec. 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
General holiday on Sundays and occasionally on week-days.	—	2	—	2	—	2	—	—	2	
Holiday on Sundays and on festival days.	1	1	—	2	1	2	—	—	3	
Holiday on Sundays and on week-days if there is work on Sundays.	—	—	—	—	—	3	—	—	3	
Holiday on Sundays except when there are other holidays in the week.	—	—	2	2	2	2	2	—	6	
Holiday on Sundays.	—	—	—	—	—	—	—	—	—	
	1	3	2	6	3	9	2	-	14	

Abstract (District Totals).

Total number of Factories	—
Cotton Mills	3
Jute Mills	—
Woollen Mills	—
Paper Mills	—
Breweries	—
Flour Mills	—
Cotton-cleaning Factories	—
Cotton Presses	1
Jute Presses	—
Leather Works	—
Iron Works or Foundries	—
Sugar Works	1
Printing Presses, &c.	—
TOTAL	5

Number of Factories inspected once during year—*Nil.*
Number of Factories inspected twice during year - - - 3
Number of Factories inspected three times during year - - 1
Number of Factories inspected more than three times during year—*Nil.*

place. On the 15th December last, when I inspected the factory, I observed that a copy of the old rules was exhibited and that the registers were kept up under the old rules. These defects have been since remedied. The children working in the factory were mustered in accordance with Rule VII. There were no accidents reported during the year under report, and there were no prosecutions under the Act.

5. Prescribed statements are sent herewith. The average wages earned by men, women, and children are Rs. 6.15.10, Rs. 4.8.8, and Rs. 2 a month respectively. Certificates as to age of children, &c., are given by the Civil Apothecary at Ambásamudram.

No. 298, dated Tinnevelly, 20 March 1893.

From *D. Bell*, Esq., Acting Joint Magistrate, Tinnevelly, to the District Magistrate, Tinnevelly.

WITH reference to your letter No. 334, dated 7th instant, I have the honour to forward, herewith, two statements in the prescribed form.

Paragraph 3.—The Coral Mills Company was working the whole year. The

factory was inspected once by me and once by Mr. Ramachandra Row. It was not inspected by Mr. Hewetson during his stay here in the first half-year of 1892, and I am unable to give any explanation of the omission.

The Sugar Factory was working from 1st January to 30th June, and from 15th August to 15th October 1892. It was not inspected by Mr. Hewetson during the first half-year. Mr. Ramachandra Row inspected it once while it was not working.

Paragraph 4.—No children were employed in the Coral Mills, and hence there was no necessity to muster them.

Paragraph 5.—The explanation of the Manager for not fencing the machinery as suggested by Mr. Ramachandra Row is herewith sent.

Paragraph 2, *Inspection.*—The Coral Mills were inspected twice in the year under report. The number of persons at work on the dates of inspection is shown in the enclosed statement, the necessary registers were kept, and the certificates of age were filed.

The Sugar Factory was inspected twice in the year; there was no work going on in the factory on the dates of inspection. I am unable to explain why the factory was not inspected, while it was working, by Messrs. Hewetson and Ramachandra Row. I joined the division after the factory stopped work.

2. *Sanitary Condition and Arrangements.*—There are two latrines for the use of the workpeople at the Coral Mills—one for males and one for females. Water is supplied by means of a hose. Ventilation is good, there being 33 windows in each of the two large workrooms.

3. *The General Health of the Operatives.*—In the Coral Mills only men and women were employed, and their health was generally good.

In the Sugar Factory only men were employed, and their health was generally good; only two females were employed in this factory as sweepers.

4. *Wages.*—In the Coral Mills men were paid at the rate of Rs. 3 to Rs. 15, and women from Rs. 3 to Rs. 5 per mensem.

In the Sugar Factory, the monthly rate for men varied from Rs. 5 to Rs. 14; the female sweepers were paid at the rate of Rs. 5 a month. These wages compare favourably with other labourers and petty cultivators, who do not get a fixed monthly income.

5. *Coral Mills.*—Women were employed in the reeling of yarn. No children were employed in this factory.

Sugar Factory.—Only two women were employed as sweepers, and no children were employed. Certificates of age were granted by the Certifying Surgeon.

6. *Fencing.*—The following is a description of the manner in which the machinery in use at the Coral Mills is fenced.

Engine.—Railings are provided all round the connecting rods, piston rods, and main cranks; also completely round the fly-wheel. Guards are provided round the rocking motion of the air-pump. Railings and trellis work are provided round the driving ropes in the rope race.

Blow Room.—Wooden guards are provided over the main belts of the machines, and iron guards over the cogwheel gearing.

Carding Room.—Iron guards are affixed to all the different frames round the driving belts, and all moving parts are protected by covers.

Spinning Room.—All the main shafts have protecting rod guards to catch any belt that may break and come down. All the machines have strong iron guards round the ends where the belts actuate the driving gear. All cogwheels are protected by iron covers. Triangular guards are bolted on to the frames to protect the ends of the driving rollers. Generally throughout the mill every moving piece of machinery likely to cause an accident is protected either by railings or efficient guards of some kind.

Sugar Factory.—The machinery is fenced. In my report the machinery is entered

entered as not fenced. This is a mistake which is due to my misapprehension of the meaning of the term "fencing."

Accidents, Coral Mills.—Two serious accidents were reported during the year under report.

On 2nd April 1892, a man had a fracture in his right arm, which was caused by his cleaning a machine in motion against orders. On 8th August 1892, a man had a flesh wound and bruise on right arm, which was caused by his carelessly placing his hand between two rollers of a machine whilst in motion against orders.

Sugar Factory.—Two accidents (one fatal and one serious) were reported during the year under report.

On 28th March 1892, a man was caught in the wheels while fastening the belt, and killed the same day. A verdict of accidental death was returned. The inquest report will be obtained and submitted to you.

On 20th June 1892, a man's hair was wound round the shafting through his carelessness while he was oiling the bearings. The man was cured, and went away to Madras of his own accord. This accident was reported to you in this Office Letter No. 488, dated 8th July 1892.

8. *Prosecutions.*—No prosecutions were instituted under the Act during the year under report.

No. 45, dated Tinnevelly, 18 March 1893.

From *M. R. Ry. R. Anantarama Aiyar*, Avergal, General Charge Deputy Magistrate, Northern Division, Tinnevelly, to the District Magistrate of Tinnevelly.

I HAVE the honour to submit my report on the working of the factories in my division for the year 1892.

2. There were two factories in the register maintained in my office, viz., (1) The Kovilpatti Spinning Company (Limited). (2) Tinnevelly Cotton Press Company (Limited), Sáttúr.

3. The former was inspected twice in 1892, viz., on the 13th and 29th December 1892. In the latter work was stopped shortly after the receipt of your docket No. 990, dated 27th June 1892, and so I was not able to inspect it when it was working.

4. In both factories all machinery was properly fenced. There was proper ventilation and water supply.

5. The condition of operatives on the Kovilpatti Mill was good. There were only two accidents of a minor nature in the year.

6. No prosecutions were instituted during the year.

7. Statements prescribed in G. O. No. 1315, dated 22nd July 1892, are herewith submitted.

No 21, dated Cuddalore, 20 March 1893.

From *M. R. Ry. P. Krishna Rao*, Avergal, B.A., B.L., Deputy Magistrate, Cuddalore, to the District Magistrate, South Arcot.

IN forwarding herewith a copy of the entries made in Statement A, prescribed under G. O. No. 953, dated 20th May 1892, for the year 1892, I have the honour to state with regret, that I made only two inspections during the year. I was engaged on special work, *i.e.*, the revision of village establishments for some months, and had also to spend some months out of this taluk on account of the jamabandi of Tindivanam, Villupuram, and Tirukkóyilúr. The Deputy Collector that was acting for me when I was away on leave, has not apparently been able to inspect the factory before 29th January 1893. I have also inspected the factory after my return.

2. It will be found in the statement that I have noted that drinking water-supply was not sufficient. I beg to report that two taps have since been opened, from which the coolies can always have any quantity of good potable water.

3. On the dates of my inspection last year, the latrines had not been built up. They have since been built up, and the accommodation is sufficient.

True copy submitted to Government. The Tiruvennanallúr Sugar Manufactory was not worked as a factory during the year.

From the District Magistrate, South

FORM I.—Name of District (or Presidency

Serial number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.							Whether the Factory is worked mainly (1) by Shifts, or (2) by Midday Stoppages or (3) otherwise.
					Adults.			Children.			Total of Columns 8 and 11.	
					Males.	Females.	Total.	Males.	Females.	Total.		
1.	2.	3.	4.	5.	6.	7.	8	9.	10.	11.	12.	13.
1	Sugar Factory at Nellikuppam.	Manufacturing sugar.	Steam-engine.	3—400 horse-power.	781	40	821	–	–	–	821	Worked by both shifts and stoppages. Shifts 6 hours on and 6 hours off; stoppages from 7 a.m. to noon and 2 p.m. to 6 p.m.
2	Distillery at Nellikuppam.	Manufacturing arrack.	Steam-engine.	3—10 horse-power.	32	–	32	–	–	–	32	Ditto - -

No. 29, dated Cuddalore, 11 April 1893.

From *M. R. Ry. P. Krishna Rao*, Avergal, B.A., B.L., Deputy Magistrate of South Arcot, to the District Magistrate of South Arcot.

IN continuation of my factory report for the year 1892, I have the honour to report that 64 females worked on the 31st December 1892 at the Nellikuppam Sugar Factory, and that no females were employed at the distillery on that day.

Submitted to Government. The information appears to have been subsequently given by the Manager.

M. Hammick,
Acting District Magistrate.

18 April 1893.

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2. The rules as to Sunday labour were in force during the year.

3. The local inspector has not authorised by any special order the shift system in force. He will now be required to do so, and orders will be issued that, in the current year, the necessary number of inspections must be made.

4. The local manager appears to have carried out the improvements in the water-supply, to the necessity for which his attention was drawn both by the inspector and myself.

Cuddalore, 29 March 1893.

M. Hammick,
Acting District Magistrate.

Arcot, dated 28 April 1893, No. 740.

Town)—Cuddalore, South Arcot District.

Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*) or (4))nder Section 5 B (2) (*d*) of the Act or (5) otherwise worked.	Number of Accidents Reported during the year.				Number of Inspections held during the year.					REMARKS.
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
A holiday on varying week days.	–	3	5	8	2	–	–	–	2	Two of accidents entered as serious were really not so. The tip of a finger was lost in each case.
—	–	–	–	–	–	–	–	–	–	

No. 43, M. P. R., dated Bellary, 28 March 1893.

From *R. Sewell*, Esq., District Magistrate of Bellary, to the Chief Secretary to Government of Madras.

I HAVE the honour to forward, herewith, copies of reports, with copies of enclosures received from the Divisional Magistrates of Adóni and Bellary on the working of the factories during the year 1892, and to state that there are no factories in Hospet Division.

2. There were no prosecutions, and there were also no accidents at all during the year at any of the factories. The two* most important of them were not at work.

*1. Bellay Spinning and Weaving Mill.
2. Cotton Press of Messrs. Dymes and Co.

No. 95, dated Adóni, the 28th January 1893.

From *M. R. Ry. K. Subbarayadu, Puntulu Garu*, Sub-Divisional Magistrate, Adóni, to the District Magistrate, Bellary.

I have the honour to submit my report on the working of the factories in this division for the year ending 31st December last.

2. The year under report began with only one factory, viz., Messrs. Dymes and Co.'s Cotton Press at Adóni, and during the year the three cotton presses mentioned in the margin were also brought on the register of factories, as they were found to come within the scope of the Indian Factories Act, as amended by Act XI. of 1891.

1. Messrs. A. Sabapathy Mudaliar and Co.'s Cotton Press at Adóni.
2. The City People's Press at Adóni.
3. Messrs. Rambillos Sowcar's Cotton Press at Adóni.

3. In all the four presses, cotton is pressed into bales with the aid of steam-engines, and particulars of the engines and their respective powers are given in the accompanying statement, Form No. I. Besides the one steam-engine of Messrs. Dymes and Co.'s factory mentioned in the above statement, there is also a small portable engine of six-horse power within the precincts of the said factory intended for boring, planing, and turning purposes, but this engine was not used during the year under report.

4. In consequence of the distress which prevailed in the district in Fasli 1301 (1891-92), and the consequent scarcity of cotton, all the four presses were not at work during a greater portion of the year under report, the total number of days during which the presses actually worked being less than 60 in all cases. Mr. Rambillos Sowcar's Press worked for 57 days; Messrs. Sabapathy Mudaliar and Co.'s for 50 days; Messrs. Dymes and Co.'s for 47

FORM I.—STATEMENT to accompany the Annual Report on

Serial Number of the Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Men.	Women.	Total.	Men.	Women.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Messrs. Dymes & Co.'s Cotton Press, Adóni.	CottonPressing.	One steam-engine of double cylinders.	Twenty horse-power, two feet stroke.	42	55	97	–	–	–	97
2	Messrs. A. Sabapathy Mudaliar& Co.'s Cotton Press, Adóni.	Ditto - -	One steam-engine with one cylinder.	Eleven horse power, 2½ feet stroke.	28	36	64	–	–	–	64
3	TheCityPeople's Press, Adóni.	Ditto - -	One steam-engine with two cylinders and another engine with one cylinder.	One of 15 horse-power, 1½ feet stroke; another of 10 horse-power, 1½ feet stroke.	10	37	47	–	–	–	47
4	Mr. Rambillos Sowcar's Cotton Press, Adóni.	Ditto - -	One steam-engine with one cylinder.	Twelve horse-power, 2 feet stroke.	37	44	81	–	–	–	81
			Total 6 to 12 and (15 to 23)-		117	172	289	–	–	–	289

days, and the City People's Press for 20 days. Each of the four presses has been inspected by me twice in the year, and everything was found to be in fair order.

5. The sanitary condition of all the four factories was found to be fair enough, and the health of the operatives, both men and women, was found to be good.

6. No children are being employed in any of these factories.

7. Daily wages generally range from three annas to six annas for men and from two annas to four annas for women, and seem quite adequate, considering the satisfactory physical condition of the labourers. The wages paid at these factories compare favourably with those of common agricultural labourers, and the reason seems no other than (*a*) that agricultural labourers seem generally to work for a much shorter time in the day than the labourers at the factories, and (*b*) that their work is easier and less strictly supervised on the whole than that of the factory labourers.

8. Men are generally employed at the half and full presses and in lifting up bales, &c., and women are almost generally employed at cleaning cotton. As I have said above, no children are being employed at all, and there was consequently no work to be done by a Certifying Surgeon.

9. The machinery are all secure and safe enough in separate rooms, and are duly fenced wherever considered necessary.

10. There were no accidents at all during the year at any of the factories.

11. There were also no prosecutions.

12. The statements prescribed in G. O. No. 1315, dated 22nd July 1892, Judicial, accompany.

the working of the Factories in the Adóni Division.

Whether the Factory is worked mainly (1) by Shifts, or (2) by Midday Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) varying Week Days, or (3) whether Factory Exempted under Section 5 B, 2 (*c*) or (4) under Section 5 B, 2 (*d*) of the Act, or (5) otherwise worked.	Number of Accidents during the Year.				Number of Inspections held during the Year.					Remarks.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspectors of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
											Abstract.
By midday stoppages.	A general holiday is given on Sundays, and if employed on Sunday, one of the three preceding or subsequent days is given as a holiday.	–	–	–	–	2	–	–	–	2	Total number of factories - - - –
											Cotton mills - - –
											Jute mills - - –
											Woollen mills - - –
											Paper mills - - –
											Breweries - - –
											Flour mills - - –
Ditto - -	Ditto - - - - - -	–	–	–	–	2	–	–	–	2	Cotton clearing factories - - - –
											Cotton presses - - 4
											Jute presses - - –
											Leather work - - –
											Iron works, &c. –
											Sugar works - - –
Ditto - -	Ditto - - - - - -	–	–	–	–	2	–	–	–	2	Printing presses - –
											Total - - 4
											Number of factories inspected once during year - - –
Ditto - -	Ditto - - - - - -	–	–	–	–	2	–	–	–	2	Number of factories inspected twice during year - - 4
											Number of factories inspected thrice during year - - –
											More than three times - - -
		–	–	–	–	8	–	–	–	8	

No. 165 L., dated Bellary, 15 March 1893.

From *M. Ry. C. Ramasasha Iyer,* Avergal, Deputy Magistrate, to the District Magistrate, Bellary.

I HAVE the honour to report on the working of the factories in the Bellary division during the year 1892.

FORM I.—STATEMENT to accompany Annual District Reports on the

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.							Whether the Factory is Worked (1) by Shifts, or (2) by Midday Stoppages, or (3) otherwise.
					Adults.			Children.			Total of Columns 8 and 11.	
					Males.	Females.	Total.	Males.	Females.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Bellary Arsenal	Ordnance.	Hand Power.	–	69	–	69	–	–	–	69	By Midday Stoppages.

Dated Camp Aska, 1 March 1893.

From *M. R. Ry. B. Narayanamurty, Pantulu Garu,* General Deputy Magistrate, Goomsur, to the District Magistrate, Ganjam.

I HAVE the honour to submit my report on the working of the Aska Sugar Factory and Distillery belonging to Mr. F. J. V. Minchin, of Aska, for the calendar year 1892.

2. During the year under report the factory was inspected five times. Firstly by my predecessor (Mr. Lever) on the 1st March, 13th May, and 30th June, 1892, and secondly, by me on the 29th August and 19th November, 1892.

3. No children under the age of 12 years were employed.

4. The workpeople are divided into two classes; the first class, consisting of mechanics, work by day only from sunrise to sunset with an interval of two hours, while the second class work both by day and night in the sugar manufacture. The latter class is divided into two equal sets, who work alternately for six hours, from 8 to 2 and 2 to 8. This is done every day, including Sundays.

5. During the cane season the second class is divided into three sets, who work in shifts of four hours, from 8 to 12, 12 to 4, and 4 to 8

6. All dangerous machinery is securely fenced. All the fly-wheels in the factory are surrounded by railings, the fly-wheel of the big beam engine by iron railings, and the diffusion fly-wheel by wooden railings.

2. There are three factories in the division (in Bellary town) as noted in the margin. Of these, Nos. 2 and 3 factories were not at work during the year. They were closed during the whole year, as there was no cotton crop during the past year on account of famine, and so no inspections were made. I have inspected the No. 1 factory twice in the year, and the information required has been filled in the form enclosed.

1. Bellary Arsenal.
2. Bellary Spinning and Weaving Mill.
3. Dymes & Co.'s Cotton Press.

working of the Factories Acts. Name of District :—Bellary.

Whether a General Holiday is Ordinarily given (1) on Sundays, or (2) on varying Week Days, or (3) Whether Factory Exempted under Section 5 B. (2), (*c*) or (4) under Section 5B, (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported During the Year.				Number of Inspections held during the Year.					Remarks.
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By Other Officers (if any).	Total.	
14	15	16	17	18	19	20	21	22	23	24
Sundays and third Saturdays -	–	–	–	–	2	–	1	2	5	

7. The requisite notices are hung up conspicuously.

8. The sanitary condition of the factory premises is good, and the buildings are well ventilated.

9. One accident was reported to me during the year under report, and the injured person was treated successfully in the Local Fund Dispensary at Aska. A statement showing the details of the case is appended :—

Date of Accident.	Name.	Caste.	Sex.	Age.	How the accident occurred.
11th February, 1892 -	Bhortya -	Gowdo -	Male - -	22 years -	The heel of his left foot was cut by a protecting cover of cane-cutter, and the accident was caused by his own carelessness.

10. The certifying surgeon did no work during the year under review. No certificates in the Form B. were granted by him.

11. I beg to submit, herewith, the returns in the new forms prescribed in G. O. No. 1,315, dated 22nd July 1892.

FORM I.—STATEMENT to accompany Annual District Report on

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.							Whether the Factory is worked mainly (1) by shifts, or (2) by Midday Stoppages, or (3) otherwise.
					Adults.			Children.			Total of Columns 8 and 11.	
					Males.	Females.	Total.	Males.	Females.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Aska Sugar Works and Distillery.	Sugar works and distillery.	By steam	79 horse power.	–	–	–	–	–	–	–	The hands employed in this manufacture of sugar are working in shifts of six hours. The mechanics and others by midday stoppages.

No. 162, dated *Madura*, 28 March 1893.

From *M. Ry. M. M. Srinivasa Row*, Deputy Magistrate, *Mélúr Division*, *Madura*.—To the District Magistrate, *Madura*.

WITH reference to your foot-note No. 894, dated 23rd August 1892, to G. O. No. 1315, dated 22nd July 1892, I have the honour to submit my report under the Factories Act, XV. of 1881, for the year 1892, with the prescribed statements.

2. There is only one factory in this division, viz., "the Madura Mills Company, Limited," under the management of Messrs. A. and F. Harvey. The work was formerly started in this factory only from the beginning of April 1892. The chief work performed is the manufacture of cotton yarn by means of machinery driven by a pair of steam engines of 900 indicated horse power.

3. The factory was inspected thrice by me on the marginally-noted dates. Copies of my notes of inspection are herewith submitted. It will be observed from them that the building is well ventilated, and that the sanitary condition of the premises is good. There is sufficient latrine accommodation provided for the operatives. There is also ample supply of good drinking water for the use of the operatives. The health of the operatives, including children and women, was generally good. A Tamil translation of the rules has been since put up.

8th November 1892.
2nd December 1892.
27th December 1892.

4. The dangerous parts of the machinery are properly fenced, and are not accessible to the operatives and visitors.

5. There were two accidents during the year under report. One of the accidents occurred before the factory work was formerly commenced. In this case a boy lost his left arm. He has been employed by the manager as a punkah cooly. The other accident was not of a serious character. A boy of 12 years was wounded on the upper part of his back and shoulders on account of his having carelessly put his hands between the tin rollers and the ring frame.

6. No prosecutions were instituted under the Act during the year under report.

the working of the Factories Act.—Name of District—Ganjam.

Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying week days, or (3) whether Factory exempted under Section 5 B, 2 (*c*), or (4) under Section 5 B., (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					Remarks.
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspectors of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
14	15	16	17	18	19	20	21	22	23	24
The mechanics and other workmen have their Sunday holiday. Arrangements are also made to give a rest day to those working in shifts.	–	–	1	1	–	5	–	–	5	

7. With reference to paragraph 4 of the Resolution of the Government of India, dated 30th June 1892, I beg to enclose herein a statement showing the rates of wages paid by the company to their operatives as compared with the rates prevailing in the Madura and Mélúr Taluks. The women are paid as piece-workers. They are stated to earn about Rs. 5 a month each or 2½ annas a day.

Notes of inspection of the Madura Cotton Mill Factory, dated 8th November 1892.

1. I inspected the factory between 12 noon and 2 P.M. Mr. J. Miller, the manager of the company, kindly showed me over the whole premises, and rendered me every assistance in inspecting the factory.

2. Registers of children are maintained according to Forms C. and D. prescribed in the rules. The ages of all the children entered in the registers have been certified by the district surgeon. Those who have been certified to be below nine years have not been entertained. I checked the B. Form Certificates granted by the district surgeon with entries in the register in some cases, and found them correct. I mustered all the children that were in attendance at the time and found that their health was generally good. Work is done in the factory on both the rest and the shift system. Notices have been put up in a conspicuous place of the factory in English and in Tamil, showing the times at which intervals of rest are granted to the women and children employed in the factory as required by Section 6, Clause 3, and Section 7, Clause 4 of the Act.

3. Generally work is not done on Sundays; and whenever it is done, holidays as required by Section 5, Clause (*b*) of the Act, are granted. Notices of the holidays to be granted every month have been regularly sent to this office since April last when the factory work was commenced.

4. Women and children are not employed before 5 A.M. and after 8 P.M. The notices show that the work is commenced at 6 A.M. and stopped at 6 P.M. I was told that the women are employed as piece-workers, and that they are not paid by the time. They do not work 11 hours a day. On an average they work nine hours a day. Even in such cases they are allowed rest.

5. The children are worked by sets. One set from 6 A.M. to 12 noon, and another set from 12.30 noon to 6 P M. Children are not employed in machine

work. The register of women to be maintained in Form E. was not produced before me. It was said to have been maintained and kept in the custody of a clerk who was absent at the time of my inspection.

6. All the dangerous parts of the machinery where the large wheel is worked have been properly fenced.

7. Two accidents have been reported up to date in the Form H. prescribed by the rules. A boy who has lost his left arm by an accident which occurred some time before the factory work was regularly commenced was shown to me. He has been employed as punkah cooly by the manager.

8. A watershed has been maintained to supply water to the operatives. The waterman keeps a sufficient supply of good drinking water for the use of the operatives.

9. The factory is kept clean. The ventilation is sufficient. The premises are free from effluvia from any drain or privy.

10. Temporary latrine accommodation has been provided, and new substantial buildings are in course of construction.

11. The women are piece-workers, and are said to earn about Rs. 5 a month. Rs. 7 is the monthly wages of an ordinary adult male cooly. The full-time children get Rs. 4. 8. each a month, and the half-timers get Rs. 3 each.

12. According to Rule 23 of the Rules framed under Section 18 of the Act, a copy of the rules, with a translation thereof in the vernacular of the district, should be hung up in a conspicuous place of the factory. There is a manuscript copy of the rules, dated 31st July 1882, hung up. The recent rules are those published in July last. A copy of those rules, with their translation, should be hung up.

NOTES of Inspection of the Cotton Spinning Factory, Madura, dated 2 December 1892.

1. I inspected the factory between 9 and 11 a.m. to-day.

2. I mustered all the children that were in attendance, and found their health generally good; their ages have been certified by the district surgeon, Madura.

3. I found at the last inspection that the copy of the rules required to be hung up in a conspicuous part of the factory was a copy of the old rules, and that registers also were maintained according to the old forms. The old C. Form is the present Form B. The old Form D. is the present Form C. A new register in the present Form D. is being prepared. No register in the

FORM I.—Madura District.

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total of Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
—	Madura Cotton Mills Company, Limited, Madura Town.	Manufacturing cotton yarn.	Machinery driven by a pair of steam engines.	900 indicated horse-power	371	83	454	112	—	112	566

Form E. has been maintained, as the women are all piece workers. A register has been maintained to show the quantity of work turned out by each woman per day, the weekly payments made to them, the fines imposed, &c. A translation of the rules in Tamil is being prepared.

4. All dangerous parts of the machinery, where the big wheel is worked, are securely fenced.

5. The factory premises are kept clean, and there is sufficient ventilation.

6. The waterman employed by the manager keeps a sufficient quantity of pure water for the use of the employés working in the factory.

7. The new latrine building is almost completed.

M. Srinivasa Row,
Deputy Magistrate.

NOTES of Inspection of the Cotton Spinning Factory, Madura, dated 27 December 1892.

1. I inspected the factory between 10 and 11 a.m. to-day.

2. Examined the children working in the factory, and referred to the register in the case of those whose ages appeared to be doubtful, and found that their ages have been certified by the district surgeon to be above nine years. The health of the children is good. The age-certificate form is still headed C., the heading according to the new rules being B. But there is no difference in the form. Register C. has been properly maintained. It was headed B. before. It is now headed C. according to the new rules, and this has been noted in red ink on the cover. Two registers in Form D. are opened—one for children working in the morning, and one for those working in the afternoon, each set working for 5½ hours. There are 113 on each register. According to C. Register, 460 children have been entertained up to date, but only 226 attend; the rest have ceased to attend.

3. Register E. is not maintained, as women are piece-workers.

4. F. form notice has been put up in a conspicuous part of the building.

5. Tamil translation of the rules has not yet been put up.

6. Ventilation is sufficient. Water supply is ample. The new latrine buildings have been completed, and they are sufficient for all the workmen. Sanitary condition of the factory premises is satisfactory.

M. Srinivasa Row,
Deputy Magistrate.

FORM I.—Madura District.

Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) On Sundays, or (2) on varying Week-days, or (3) whether the Factory exempted under Section 5 B, (2) (*c*), or (4) under Section 5 B. (2) (*d*), of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By special Inspectors of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
The Factory is worked by shifts for half-timers from 6.30 to 12 a.m., and 12.30 a.m. to 6 p.m., and by stoppage for adults between 12 and 12.30 a.m.	General holiday on Sunday -	-	1	1	2	3		-	-	3	—

No. 17.

Submitted to the Chief Secretary to Government, Judicial Department, with copies of enclosures with reference to G. O., dated 22nd July 1892, No. 1315.

2. This is the only factory in this district falling under the scope of the Act.

E. Srinivasachari,
for District Magistrate.

Madura, 4 April 1893.

No. 322, dated Kistna, the 23rd February 1893.

From *V. Venugopaul Chetty*, Esq., Acting Head Assistant Magistrate, Kistna District, to the District Magistrate.

I have the honour to forward my Annual Report on the working of the Factory Act, XV. of 1881, in 1892.

FORM I.—STATEMENT to accompany Annual District Report on the

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.							Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.
					Adults.			Children.			Total of Columns 8 and 11.	
					Males.	Females.	Total.	Males.	Females.	Total.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1	Public Works Department Workshop, Kistna, Bezwada.	Caulking, carpentry, iron work, brass work, copper work, fitter work, and painting.	Steam power and hand labour.	Generally one stationery engine, 20-horse power.	203	–	203	–	–	–	203	Mid-day stoppages.

No. 574.

Forwarded to the District Magistrate, Kista, with

7 April 1893.

Submitted to the Chief Secretary to the Government of Madras, Judicial Department.

2. The Public Works Department Workshop at Bezwada is the only factory in the district.

3. Copies of Return No. 1, and the statement prescribed in G. O. No. 1315, dated 22nd July 1892, are enclosed.

2 There is only one factory in this division, viz., the Department of Public Works Workshop, Bezwada, which is under the charge of the Executive Engineer, Eastern Delta.

3. This factory was thrice inspected on 5th March 1892, 3rd October 1892, and 16th December 1892, by F. C. Parsons, Esq.

4. A statement showing the result of inspection prepared in the form prescribed in G. O., dated 22nd July 1892, No. 1315, is herewith forwarded.

5. Ventilation, sanitary arrangements, and fencing of machinery appear satisfactory. The registers prescribed by the rules were properly kept. A copy of the rules in English and Telugu, and a table of working hours and holidays are posted up.

6. The hours fixed are from 6 a.m. to 6 p.m., with two hours interval, that is, ten hours in all.

7. General health of the operatives is good. No women or children were employed during the year under report.

8. No accidents were reported in the year.

9. No prosecutions were ordered under the Act during the year.

Working of the Factories Act.—Name of District—Kistna.

Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether the Factory exempted under Section 5 B, (2) (*c*), or (4) under Section 5 B, (2) (*d*), of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					Remarks.
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspectors of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Sundays - - -	-	-	-	-	3	-	-	-	3	

reference to his letter No. 47, dated 13th March 1893.

F. C. Parsons,
Acting Head Assistant Magistrate and Inspector of Factories.

4. The delay in the submission of the report is due to the fact that Return No. 1. from the Head Assistant Magistrate was only received on the 10th instant.

J. W. Hughes,
for District Magistrate.

Masulipatam, 11 April 1893.

No. 878, dated Madras, the 14th April 1893.

From the Inspector of Railway Factories to the Chief Secretary to the Government of Madras.

In compliance with G. O. No. 1315, Judicial, dated 22nd July 1892, I have the honour to forward herewith a report on the Railway Factories for the year 1892, together with the returns prescribed therein.

Report on Railway Factories for the Year 1892.

During the year under review the following factories were under the control of the Government Inspector of Railway Factories, Madras, and were inspected on the date shown opposite each of them :—

Railway.	Name of Factory.	When Opened.	Dates of Inspection.	—
Madras	Perambúr	Prior to January 1892	28 January 1892	4
Ditto	ditto	ditto ditto	8 August ,,	
Ditto	ditto	ditto ditto	29 October ,,	
Ditto	ditto	ditto ditto	3 December ,,	
Ditto	Rayapuram	July 1892	8 August ,,	2
Ditto	ditto	ditto	28 October ,,	
Ditto	Jalarpet	ditto	2 August ,,	2
Ditto	ditto	ditto	7 December ,,	
Ditto	Padanur	ditto	4 August ,,	2
Ditto	ditto	ditto	21 October ,,	
South Indian	Trichinopoly	Prior to January 1892	22 February ,,	4
Ditto	ditto	ditto ditto	14 July ,,	
Ditto	ditto	ditto ditto	22 August ,,	
Ditto	ditto	ditto ditto	16 December ,,	
Ditto	Negapatam	ditto ditto	28 January ,,	4
Ditto	ditto	ditto ditto	25 March ,,	
Ditto	ditto	ditto ditto	18 August ,,	
Ditto	ditto	ditto ditto	15 December ,,	
Ditto	Madura	July 1822	19 August ,,	2
Ditto	ditto	ditto	17 December ,,	
Ditto	Cuddalore	ditto	17 August ,,	2
Ditto	ditto	ditto	19 December ,,	

At all the inspections it was found that the factories, on both the Madras and South Indian Railways, were maintained in a satisfactory condition, and that the provisions of the Act and of the rules published thereunder were properly observed.

The Sanitary Condition of, and Sanitary Arrangements on, Factories.—All the factories named above are kept in a clean condition, and are provided with sufficient accommodation and with an ample supply of water for drinking and washing purposes. They are also well ventilated, and the sanitary arrangements in them are satisfactory. At the Trichinopoly factory a continuous supply of water with a $2\frac{1}{2}$-inch delivery, certified by the superintending physician as being suitable for drinking purposes, is laid on.

The General Health of the Operatives, especially of the Women and Children.—The health of the operatives is generally good. Eighteen per cent. of the men

men on the rolls at the Trichinopoly factory were absent during the year on account of sickness, casual leave, and other causes. The children employed in the Ráyapuram and Trichinopoly factories are healthy.

Wages and the General Condition of the Operatives.—The wages paid by the Madras Railway Company are slightly in excess of those obtainable in the local market, it being necessary to offer a slightly higher rate of salary in order to induce the better class of workmen to take up employment with the Company.

On the South Indian Railway wages are paid daily or monthly. The wages paid in the Trichinopoly factory vary from As. 3 to Rs. 1 8a. Those drawing As. 3 6p. and under are engaged on purely coolie labour, and those drawing more than this rate are given miscellaneous duties requiring a little more intelligence than is to be found in the ordinary coolie.

The Employment of Women and Children.—No women are employed at any of the factories on the Madras or South Indian Railways. Children are employed at the Ráyapuram and Trichinopoly factories only. At the latter factory the average number of children on the rolls during the year was 12, and the average daily attendance 8. The certifying surgeon granted certificates to 22. The children at both these factories have been certified to be of proper age.

The Fencing of Machinery and Mill-gearing.—The machinery in all the factories is properly and securely fenced.

Accidents.—During the year 14 accidents occurred at Negapátam, but none of these were of a serious nature. Eight accidents of a minor nature occurred at the Perambúr workshops. At the Trichinopoly shops there were eight accidents, one of which resulted in the death of the injured person, whose mother and widow were paid a gratuity of Rs 48 12 a. The remainder were not of a serious nature. No accidents occurred at any of the other factories.

Prosecutions.—There were no prosecutions during the year at any of the factories.

The returns prescribed in G.O. No 1315, Judicial, dated 22nd July 1892, are appended.

Madras, April 1893.

C. T. R. Scovell,
for Inspector of Railway Factories, Madras.

FORM I.—STATEMENT to accompany the Annual Report on the

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	Total, Columns 8 and 11.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	Perambur Workshop, situated in Tiruvallur village, Saidapet taluk, Chingleput District.	Locomotive carriage and waggon works.	For driving machinery.	Four stationary engines equal to 472 horse power.	2,974	nil	2,974	nil	nil	nil	2,974
	Engineering Workshops, Rayapuram Madras District.	Miscellaneous wrought timber and iron works.	For working circular saws, lathes and drilling machines.	Two engines, 6 and 12 horse power.	354	nil	354	7	nil	7	361
	Podanur Workshop and engine shed in Coimbatore district.	Locomotive carriage and waggon works.	Driving machines.	One stationery engine equal to 20 horse power.	61	nil	61	nil	nil	nil	61
	Jolarpet Workshop and engine shed, Salem District.	- ditto - -	- ditto - -	One stationary engine equal to 10 horse power.	52	nil	52	nil	nil	nil	52
	Engineering Workshops, Trichinopoly.	Maintenance, way, works, sundry carpenters' and blacksmiths' works.	Portable engine -	Two engines of 10 horse power each.	596	nil	596	6	nil	6	602
	Locomotive and Carriage shops, Negapatam, Tanjore District.	Machinery and Works for engines and rolling-stock.	Five horizontal stationary engines.	Two 25 horse power. Ditto 18 ditto. One 15 ditto.	2,462	nil	2,462	nil	nil	nil	2,462
	Locomotive and Carriage shops, Cuddalore, South Arcot District.	- ditto - -	One portable engine.	10 horse power -	178	nil	178	nil	nil	nil	178
	Locomotive and Carriage shops, Madura, Madura District.	- ditto - -	One horizontal stationary engine.	25 horse power -	193	nil	193	nil	nil	nil	193

No. 93 M. Gl. dated Calicut, the 8th April 1893.

From *M. R. Ry. V. Chappan Menon,* Avergal, Deputy Magistrate, Calicut Division, to the Acting District Magistrate, Malabar.

AGREEABLY to Government Order, dated 22nd July 1892, No. 1315 (Judicial), I have the honour to submit my report on the working of the Indian Factories Act, XV. of 1881 (as amended by Act XI. of 1891), in the Calicut sub-division during the past calendar year 1892. The prescribed statements (two in number) are enclosed.

2. The only factory which remained on the factory register during 1891 was "The Malabar Spinning and Weaving Company's" cotton mill at Calicut. During the year under report six factories were registered afresh in pursuance of the rules framed by Government and published in the "Fort St. George Gazette," dated 28th June 1892, and there were at the end of the year the following seven factories subject to the operation of the factory law :—

(1.) The Malabar Spinning and Weaving Company's (Limited) mill at Calicut.

(2.) The Karaparamba Coffee Works of Messrs. Pierce, Leslie & Co.

working of the Railway Factories in the Madras Presidency during 1892.

Whether the Factory is worked mainly (1) by shifts, or (2) by midday stoppages, or (3) otherwise.	Whether a general Holiday is ordinarily given (1) on Sundays, or (2) on varying week-days, or (3) whether the Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By midday stoppages from 11 a.m. to 12.30 p.m. daily.	General holiday on Sunday.	–	–	8	8	–	4	–	–	4	
Midday stoppages from 11 a.m. to 1 p.m.	- ditto - - -	–	–	–	–	–	2	–	–	2	
Midday stoppages from 11 a.m. to 12.30 p.m.	- ditto - - -	–	–	–	–	–	2	–	–	2	
- ditto - - -	- ditto - - -	–	–	–	–	–	2	–	–	2	
By stoppages from 12 noon to 1.30 p.m.	- ditto - - -	1	–	7	8	–	4	–	–	4	
By stoppages, Monday to Friday, from 11 a.m. to 12.30 p.m. Saturday factory closes at 12.30 p.m. for remainder of the day.	- ditto - - -	–	–	14	14	–	4	–	–	4	
- ditto - - -	- ditto - - -	–	–	–	–	–	2	–	–	2	
- ditto - - -	- ditto - - -	–	–	–	–	–	2	–	–	2	

Abstract.

Total number of factories	8
Cotton mill	nil.
Jute	„
Woollen	„
Paper	„
Breweries	„
Flour	„
Cotton-cleaning factories	„
Cotton presses	„
Jute presses	„
Leather works	„
Iron works and foundries	8
Sugar works	nil.
Printing presses	„
Total	8
Number of factories inspected once during the year.	nil.
Number of factories inspected twice during the year.	5
Number of factories inspected three times.	nil.
Number of factories inspected more than three times.	3

(3.) The Plantation House Works of Messrs. Burnett & Son.

(4.) Messrs. Arbuthnot & Co.'s Kailai Works.

(5.) The Mercantile Mission Tile Works at Calicut.

(6.) The Mammally Coffee Works.

(7.) The Calicut Tile Works at Marakkat.

3. Objections were made by the managers of factories Nos. 2, 3, and 6 *supra* on the ground that their coffee-curing works did not fall within the scope of the Factories Act, but this point was settled on a reference to Government, who passed the following Order under date the 12th December 1892, No. 2289 (Judicial) :—

> " The Government sees no reason to reconsider the views as to the meaning of the term ' Factory ' set out in Paragraph 4 (*b*) of Government Order, dated 19th December 1891, No. 2568 (Judicial). Unless the arrangements of the premises now in question are altered in such a way that the hands employed in picking coffee and similar operations are completely separated from those employed on processes aided by machinery falling within the definition, the premises must be classed as factories, and the owners must submit to the law. As the coffee-cleaning works are at present, there is no doubt the Government considers that they are factories within the meaning of the Act."

4. By the same Government Order the proposal to bring under control Messrs. D. Maneekji & Co.'s (1) saw mill at Kallai, and their (2) title works at Mammally, where less than 50 persons are usually employed on each day, was negatived by Government.

5. *Inspections.*—I inspected all the factories in my sub-division once prior to the issue of notices under Rule 3 of the factory rules intimating my intention to place them on the factory register, and after registering them I inspected them again. The omission to make the prescribed number of inspections in the case of certain coffee works (*vide* Statement No. 1 herewith submitted) is due to the late receipt of the Government Order of 12th December 1892, disposing of the objections raised by the managers of these works.

6. During my first inspections I found that the managers of the various factories had failed to notice the changes introduced by the Factories Amendment Act of 1891, and the rules thereunder, and had omitted to maintain the registers in the new forms. I explained the provisions of the law fully to them, and am glad to say that most of the defects pointed out were speedily removed. In the coffee-curing works complaints were made that the maintenance of the registers for women and children who come and go whenever they like was an unnecessary and unwarranted interference with labour, but the factory managers were told that a complete isolation of the machine-sheds would enable the removal of the factories from the factory register, and some of them are making the necessary alterations to this end. Most of the registers were properly kept.

7. *Sanitary Conditions and Arrangements.*—The sanitary condition of all the factories is excellent. The premises are clean and the factories are well ventilated, so that the operatives are generally better off there than in their own houses. There are good wells with abundant water supply in the compounds of the factories, and no difficulty has yet been experienced in regard to it. A sufficient number of latrines and urinals exist everywhere, and the sanitary arrangements appear to me to be perfectly satisfactory.

8. *Health of the Operatives.*—The health of the operatives is good, and the women and children appear to take to factory work much more readily than men, and to be anxious to earn an honest livelihood. No complaint of overwork has yet been received.

9. *Wages and the general Conditions of the Operatives.*—The average daily wages paid at the various factories are noted below :—

Serial No.	Name of Factory.	Wages of			
		Men.	Women.	Boys.	Girls.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Cotton Mill	0 4 6	0 2 2	0 2 0	0 1 9
2	Karaparamba Coffee Works	0 4 0	0 2 0	0 2 0	0 1 0
3	Plantation House Works	0 2 6 to 0 4 0	0 2 0 to 0 3 0	0 1 0 to 0 1 6	0 1 0 to 0 1 6
4	Kallai Works	0 4 0	—	0 2 0 to 0 2 6	—
5	Mercantile Mission Tile Works	0 3 6	0 2 0	—	—
6	Mammally Coffee Works	0 3 0	0 2 0	0 1 6	0 1 0
7	Calicut Tile Works	0 1 3 to 0 4 6	0 2 0	—	—

In coffee works the wages are mostly paid according to the results, but the rates above given may be taken as a fair approximation to those earned by the operatives each day. These wages compare favourably with those earned by agricultural classes, and their condition appears to be as good as, if not better than, that of the latter.

10. *Employment of Women and Children.*—At the coffee-works women and children are employed in garbling coffee and in picking out discoloured and broken berries, and at tile works they carry clay and tiles from and to the kiln. At the cotton mill women are employed in cleaning cotton and the children in spinning, and on the whole the nature and the amount of their work may be said to be such as not to injure their health or physical development.

11. *Certifying Surgeon.*—At the cotton mill the civil surgeon has granted certificates to all children, but at the coffee works no such certificates were furnished, under the impression that they were not required, those establishments not being regarded as factories. The managers of these establishments have since taken steps to detach their machine sheds completely from the yards where women and children are employed in garbling coffee, and the necessity for obtaining certificates would hardly arise hereafter.

12. *Fencing of Machinery and Mill-gearing.*—These have been properly fenced, and where additional fences were required they have been put up on my suggestions.

13. *Accidents.*—The number of accidents that happened at the various factories is given in Statement No. 1. They were all of minor character and did not amount to more than 12, of which 10 happened at the cotton mill, and the other two at Messrs. Pierce, Leslie & Co.'s coffee works at Karaparamba.

14. *Prosecutions.*—There were no prosecutions for infringement of the provisions of the Factories Act, as the defects noted at inspections, which were due to mere ignorance, were corrected as soon as they were pointed out.

STATEMENT No. 1.—To accompany the Annual

Serial Number of Factories.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total of Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12
1	The Malabar Spinning and Weaving Company's (Limited) Cotton Mill at Calicut, Pannyankara amsam, Calicut taluk.	Manufacture of cotton yarn.	One compound engine jet condensing capable of working 500 indicated horse power.	500 indicated horse power.	415	32	447	99	3	102	549
2	Messrs. Pierce, Leslie & Co.'s "Karaparamba Coffee Works" in Katcheri amsam, Calicut taluk.	Coffee-curing and miscellaneous work.	Steam engine -	Two steam engines of 12 and 7 horse power, respectively.	50	210	260	10	50	60	320
3	Messrs. Burnett & Sons' "Plantation House Works" at Malaparamba, in Kottuli amsam, Calicut, Calicut taluk.	Coffee-curing and packing cinchona bark.	- ditto - -	Three steam engines of 24, 8, and 2 horse power, respectively.	27	3 1	328	10	26	36	364
4	Messrs. Arbuthnot & Co.'s "Kallai Works" in Nagaram amsam, Calicut taluk.	Manufacture of manure.	- ditto - -	One engine of 8 horse power.	20	-	20	2	-	2	22
5	The Mercantile Mission Tile Works at Calicut, Kottuli amsam, Calicut taluk.	Manufacturing tiles.	- ditto - -	One engine of 15 horse power.	193	39	232	-	-	-	232
6	The Mammally Coffee Works in Cheruvannur amsam, Calicut taluk.	Coffee-curing -	- ditto - -	One engine of 20 horse power.	71	514	585	37	102	139	724
7	The Calicut Tile Works in Cheruvannur amsam, Calicut taluk.	Manufacturing tiles.	- ditto - -	One engine of 35 horse power.	230	28	258	-	-	-	258
				TOTAL - -	1,006	1,124	2,130	158	181	339	2,469

No. 245 M.—General, dated Calicut, 13 April 1893.

Endorsed by the Acting District Magistrate.

TRUE copy, with copies of enclosures, submitted to Government. There were no factories in the other divisions of the district during the year under report.

No. 214, dated *Cocanada*, 2 May 1893.

From *E. C. Rawson*, Esq., Acting District Magistrate, Godavari, to the Chief Secretary to the Government of Madras.

I HAVE the honour to report on the working of the Factories Act, No XV. of 1881, as amended by Act XI. of 1891, in this district for the year 1892.

2. The amended Act came into force on 1st January 1892. The only factory under the old Act was the Department of Public Works workshop at Dowlaishweram in the joint magistrate's division. In the amended Act, the minimum number of operatives required to constitute a factory having been reduced from 100 to 50, inquiries were made as to whether there were any places, besides the Government workshop which fell under the new definition. The rice factory at Georgepeta was found to fulfil the requirements of the new definition, and was

Administration Report on Factories for 1892.

Whether the Factory is worked mainly (1) by shifts, or (2) by midday stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying week days, or (3) whether factory is exempted under Section 5 B (2) (*c*) or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspectors of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13	14	15	16	17	18	19	20	21	22	23	24.
By midday stoppages.	General holiday given on Sundays except when other days are substituted for them in accordanee with the Act.	-	-	10	10	3	-	2	-	5	
- ditto - -	- ditto - - - -	-	-	2	2	1	-	-	-	1	Owing to late receipt of Government Order dated 12th December 1892, No. 2289, more than one inspection could not be made. The factory is worked only for about five months in the year.
- ditto - -	- ditto - - - -	-	-	-	-	1	-	-	-	1	- ditto ditto.
- ditto - -	- ditto - - - -	-	-	-	-	2	-	-	-	2	- ditto ditto.
- ditto - -	- ditto - - - -	-	-	-	-	3	-	-	-	3	—
- ditto - -	- ditto - - - -	-	-	-	-	2	-	-	-	2	The factory is worked only for about five months in the year.
- ditto - -	- ditto - - - -	-	-	-	-	4	-	-	-	4	When the new factory rules were enforced, the children previously working at the factory were dismissed in order to obviate the necessity for keeping their registers, &c.
		-	-	12	12	16	-	2	-	18	

accordingly placed by the deputy magistrate, Cocanada, on his register in August last. Thus there are at present two factories in the district.

3. I.—*Inspections, Dowlaishweram Factory.*—The factory was inspected by joint magistrate three times during the year, and the defects pointed out at the first and second inspections were rectified before the last. The average daily attendance of men and women was 160 and 2, respectively. Register E. had not been opened at the first two inspections, but was opened before the third, Registers " C." and " D." and the file of " B." certificates were not maintained, no children having been employed during the year. The " F." notice and the notice required by Section 10 of the Act were put up in a conspicuous place, as also a copy of the rules referred to in Rule 23. The daily working hours for both men and women were from 6 a.m. to noon, and from 2 p.m., to 5 p.m., thus allowing every one an interval of two hours for rest in the middle of the day.

4. *Georgepeta Factory.*—The factory was inspected by the head quarter deputy magistrate twice during the year. The short inspection was due to the factory having been taken on the register late in the year. The average daily attendance of men, women and children has been returned, as 34, 19 and 2, respectively, the age of the children being 9 years and over. Registers C., D., and E. were not maintained in spite of the deputy magistrate's remarks during his inspection. No file of " B." certificates was kept up, and the children were

not subjected to any medical examination. The notice required by Section 10 of the Act and the copy of the rules referred to in Rule 23 were not exhibited. Notice " F." alone was hung up. The deputy magistrate has been ordered to see that these defects are remedied at once, and a prosecution instituted if his orders are still disobeyed. The following statement shows the working hours of men, women and children in this factory :—

—	Number of Working Hours.	Amount of Interval between Working Hours.
Men - -	10½ hours.—From 5½ a.m. to 12 and from 2 p.m. to 6 p.m.	2 hours.
Women -	9 „ „ 7 „ „ „ 6 „	2 „
Children -	7 „ „ 7 „ „ „ 4 „	2 „

5. A general holiday is observed on Sundays in both factories. It will be seen that every one in both factories is allowed two hours off in the middle of the day.

6. II.—*The Sanitary Condition of, and Sanitary Arrangements in, Factories.*—The sanitary arrangements at both factories were satisfactory.

7. III.—*The General Health of the Operatives, especially of the Women and Children.*—In both factories the general health of the operatives is reported to have been good.

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.							Whether the Factory is worked mainly (1) by Shifts, or (2) by Midday Stoppages, or (3) otherwise.
					Adults.			Children.			Total of Columns 8 and 11.	
					Males.	Females.	Total.	Males	Females.	Total.		
1	2	3	3	4	6	7	8	9	10	11	12	13
1	Government workshop, Dowlaish-weram.	Wood and iron works.	Steam engine	12-horse power	160	2	162	–	–	–	162	The factory is worked by stoppages from 12 a.m. to 2 p.m.
2	Rice factory at Georgepeta.	Manufacture of rice.	- ditto -	40-horse power	34	19	53	1	1	2	55	- ditto -
				TOTAL - -	194	21	215	1	1	2	217	—

8. IV.—*Wages and General Condition of the Operatives, Dowlaishweram Factory.*—The monthly wages of a man were *Rs.* 5. 10 *a.*, *i.e.*, 3 annas a day, and those of a woman *Rs.* 3. 12 *a.*, *i.e.*, 2 annas a day. This is somewhat above the ordinary wages of coolies in the neighbourhood.

9. *Georgepeta Factory.*—A man's wages are on the whole, slightly above ordinary rates. The men get from 2 to 4 annas a day according to the work they turn out. The women get an anna and a-half and the children from 9 pies to 1½ annas. The wages are paid weekly.

10. V.—*The Employment of Women and Children.*—The two women in the Dowlaishweram Factory do wood work, and are not employed in places where the machinery is working. The women in the Georgepeta Factory are employed in carrying the boiled paddy to the platform to dry and in removing chaff, &c., from the pounded rice. The children help the women in drying the boiled paddy and in sweeping and cleaning the factory compound.

11. *Work of Certifying Surgeons.*—The Government has, in its Order No. 1591, 1st September 1892, appointed the medical officer in charge of the Dowlaishweram Dispensary as certifying surgeon for the Dowlaishweram Factory. No certificates were issued by him as no children were employed. No certifying surgeon has yet been appointed for the Georgepeta Factory. The early attention of the Deputy Magistrate will be drawn to this.

12. VI.—*The Fencing of Machinery, &c.*—The machinery in both factories is reported to be properly fenced. Only men are allowed to work near the machinery.

13. VII.—*Accidents.*—There were no accidents in either factory.

14. VIII.—Prosecutions.—There were none instituted during the year.

Report on the working of the Factories Act for 1892.

Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying week days, or, (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B, (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					Remarks.
	Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspectors of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
14	15	16	17	18	19	20	21	22	23	24
There is holiday on Sundays.	–	–	–	–	3	–	–	–	3	Abstract district total— Total number of factories 2— Iron works - - 1 Rice Mills - - 1 TOTAL - - 2
- ditto - - - -	–	–	–	–	2	–	–	–	2	Number of factories inspected twice during the year - 1 Number of factories inspected thrice during the year - 1 TOTAL - - 2
—	–	–	–	–	5	–	–	–	5	

N.B.—The District Factories Report will follow.

From the District Magistrate,		Cuddapah,	dated 6th	February	1893,	No. 123.
,,	,,	Nellore	,, 11th	,,	,,	,, 162.
,,	,,	Chingleput	,, 25th	,,	,,	,, 91.
,,	,,	Salem,	,, 17th	March	,,	,, 428.
,,	,,	North Arcot	,, 18th	,,	,,	,, 407.
,,	,,	Anantapur	,, 20th	,,	,,	,, 186.
,,	,,	Nilgiris	,, 23rd	,,	,,	,, 305.
,,	,,	Kurnool	,, 25th	,,	,,	,, 1146.
,,	,,	Trichinopoly	,, 25th	,,	,,	,, 34–2.
,,	,,	Tanjore	,, 30th	,,	,,	,, 457.
,,	,,	South Canara,	dated 15th	April	1893,	No 1411.

ABSTRACT.—Stating that there were no factories falling under the scope of the Factories Act, No. XV. of 1881, at work in these districts during the year 1892.

ORDER—dated 17 July 1893, No. 1447, Judicial.

IT has hitherto been customary for Government merely to review the annual reports upon the working of the Factories Act, which are submitted by district magistrates, the Commissioner of Police, Madras, and the consulting engineer for railways, but it is now necessary, under the instructions conveyed in Home Department Letter, dated 30th June 1892, No. 861—11, Judicial, to compile in addition an annual provincial report. Accordingly in the present proceedings the Government will first comment upon the returns received from the districts individually, and will then combine the statistics furnished by the reporting officers, and make such general remarks thereon as seem to be called for with reference to the Home Department Letter mentioned above.

2. (*a*) *Vizagapatam.*—The returns from this district were submitted in an incorrect form in the first instance, and revised returns were not received until the 10th May. The one factory in this district was inspected only twice instead of thrice, as required by the rules; these two inspections are entered in Column 20, of Form I., but as there are no special inspectors in this Presidency they should have been shown under Column 19. The inspector has certified that no children were employed during 1892, but from Parapraph 12 of his report it is obvious that he has overlooked the fact that under Section 5 of Act XI. of 1891, the term "child" means any person below the age of 14 years.

(*b*) *Madras.*—Women were employed during 1892 in the Gun-Carriage Factory, the Southern India Spinning and Weaving Mill, the Harbour Works, the Public Works Workshop, the Cement Works, the Paddy-grinding, Cleaning, and Oil Manufactory, the Government Press and the Basin Foundry, but the register in Form E. was not maintained as required by rule in any of these factories; this should be remedied. The maximum number of hands employed on any day at the Gun-Carriage Factory is given as 1,314 in the appendix to the inspector's report, but the average daily number of operatives appears in Form I as 1,375. The maximum number of hands at the Southern India Spinning and Weaving Mill appears as 784 in the Appendix, but Columns 4 and 5 show that there were 797 at work on 6th June. From Columns 4 and 5 of the Appendix it would also seem that the average number of operatives entered against the Harbour Works' is incorrect. Again, the average number of operatives in the Public Works Workshop is given at 435, but the maximum on any one day is 425. The figures entered against the United Spinning and Weaving Mill are similarly irreconcileable. In the case of the Bee Hive Foundry too, the maximum and the average are both put at 157, though the figures in Column 4 of the Appendix show that this cannot be correct, and the average is higher than the maximum in the case of the Government Press. The Commissioner of Police will submit revised returns, and will see that more care is exercised in future. It is observed that two factories were inspected only twice, and one only once; no reason for this has been given.

(*c*) *Tinnevelly.*—It will appear that out of five factories three were inspected only twice, and that one was not inspected at all, but the meaning of the figures in Columns 19—23 of Form I is not quite clear; apparently only inspections by registering inspector have been treated as inspections for the purposes of the rules, but this is incorrect; the inspection may be made by any inspector, and all inspections made by magistrates who are inspectors should be entered in Column 19 of Form I, and not in Column 20. It is observed that whereas the maximum number of hands employed in any one day in the Kovilpatti Spinning Company's Factory is given in the appendix to the report as 506, the average number of operatives appears as 529 in Form I.

(*d*) *South Arcot.*—The returns originally submitted were not in the correct form, and the revised returns were not received until the 1st May. From the appendix to the district magistrate's report it would appear that each of the two factories in this district was inspected twice, but there is no entry in Column 19 of Form I against the Nellikuppam Distillery, which, however, should not have appeared in either of the returns as the maximum number of operatives was only 49. Steps are, it seems, being taken to remedy such defects as were observed in the case of the Nellikuppam Sugar Factory.

(*e*) *Bellary.*—As Rambillos Sowcar's Cotton Press, Messrs. Sabhat Mudalivur and Company's Cotton Press, Messrs. Dymes and Company's Cotton Press (Adóni) and the City People's Press worked for less than four months during the year, they need not have been reported upon. It is stated that the maximum number of operatives at the Bellary Arsenal was 71; yet on the 4th November there were 78 persons employed.

(*f*) *Ganjam.*—From paragraph 3 of the general deputy magistrate's report, it would appear that he has overlooked the change made by Section 5, Act XI., of 1891, in the definition of "child." Register E is not maintained, in the Aska Sugar Factory, but it is presumed that the two women employed there are merely sweepers; the remark in Column 10 of the appendix to the report, that women are only employed by contractors during the diffusion season is not understood, and should be explained. Columns 6—12 of Form I have not been filled in, and the figures in Column 20 should have been entered in Column 19. The shift system is in force in the Aska Factory; it is not stated whether the shifts have been approved by the inspector as required by Section 5A of the Act. It appears that work goes on even on Sundays in this factory; the district magistrate should report whether the requirements of Section 5B (2) (*b*) of the Act are being observed.

(*g*) *Madura.*—In Column 6 of the appendix to the report from this district it is stated that the Registers C, D, and E, are all kept at the Madura Mills Company's Factory, but it appears from the inspector's notess that Register E is not maintained on the ground that all the women are piece-workers. The register certainly should be kept; the provisions of the Act apply to piece-workers as well as time-workers. The entry in Column 7 of the appendix also seems to have been made without due care; the inspector's notes show that during the year the requirements of the rules were not strictly observed, though it is reported that attention has since been paid to them. From Column 4 of the appendix it would seem that the number of men, women and children at work was exactly the same on the occasion of each inspection, which seems improbable. Column 12, too shows that the maximum number of children, employed on any day was 112, but in his notes the inspector states that 226 children attend the factory. It has not been stated whether the inspector has formally approved the system of shifts in force in the Madura Mills Company's Factory.

(*h*) *Kistna.*—The returns from this district were received on the 13th April. Column 6 of the appendix to the report has been incorrectly filled up; Registers C, D, and E, are obviously not maintained at the Public Works Workshop, Bezwada, seeing that women and children are not employed there.

(*i*) *Railways.*—The returns from the consulting engineer for railways were received on the 17th April. It is observed that they deal only with those factories where the machinery is driven by steam, but it would appear (*vide* paragraph 5 of Government Order, dated 20th May 1892, No. 953, Judicial) that there are several engine-changing stations where hand-power alone is used, and in paragraph 4 of Home Department Letter, dated 7th December 1892, No. 1450, Judicial, communicated to the Public Works Department by Government Order, dated 9th January 1893, No. 23, Judicial; the opinion is expressed that even such stations (other conditions being fulfilled) fall within the definition of "factory." This should be noted for future guidance. The consulting engineer will also note that the entries in Column 20 of Form I should have appeared in Column 22, as there is no special inspector in this Presidency.

(*j*) *Malabar.*—The returns from this district were not received until the 15th April. The entry in Column 24 of Form I against Messrs. Arbuthnot & Co.'s "Kallai Works" is apparently a mistake. It is observed that in several instances inspections were repeated at such short intervals as to deprive them of any value.

(*k*) *Godavari.*—The report of the district magistrate was not received until the 8th May; the delay should have been explained. It is observed that the district magistrate is taking the necessary steps to ensure compliance with the rules in the case of the Georgepeta Factory. A further communication on the subject of appointing a certifying surgeon for this factory is awaited.

3. Having commented above upon the individual district reports the Government proceeds to summarise the statistics supplied to them.

4. There was a noticeable increase in the number of factories, which is, however, entirely due to the extensionof the Act relating to establishments employing 50 hands, and to the inclusion of certain establishments which were formerly regarded as not coming within the definition of "factory." The only large factories which seem to have been started during the year are the Madura Cotton Mill and the Kovilpatti Spinning Company's Factory. On the other hand, six factories, which were at work in 1891, disappeared from the registers, the cessation of work in these factories being generally due to the shortness of the cotton crop. On the whole there were 46 factories reported on, against 32 in 1891. The daily average number of operatives employed during the year under report was 23,872.

5. Considering that the revised rules under the Factories Act were not published until the middle of the year the duty of inspecting factories may be said to have been, on the whole, satisfactorily performed. It is, however, observed that hardly a single factory was inspected by a medical officer. The attention of the Surgeon-General will be drawn to this fact, and with reference to Government Order, dated 21st June 1892, No. 1140, Judicial, he should report whether the allowance which was sanctioned by the Secretary of State in his Despatch, dated 24th March 1892, No. 18, was drawn by any medical officer in 1892. There is nothing very noticeable in the reports of the inspectors. In a few instances, as was natural, the registers required by the rules were not maintained in factories newly brought within the scope of the Act, but in nearly every case the managers hastened to comply with the requirements of the law on the omission being pointed out. The sanitary arrangements and condition of the factories seem to be generally satisfactory, very few complaints having been made by inspectors. Such sanitary improvements as were suggested were usually carried out at once by the managers. In every case except one the inspectors reported most favourably upon the physical condition of the operatives; the exception is the Calicut Tile Works, where the condition of the women is described as indifferent.

6. Several of the inspectors have reported briefly on the wages of the operatives, and they concur in thinking that, as a rule, they are paid higher wages than they would get outside the factory. According to the Deputy Commissioner of Police the wages in the Madras factories run from Rs. 7 to Rs. 25 per mensem in the case of adult males. The Head Assistant Magistrate of Tinnevelly quotes Rs. 6 15a. 10p., Rs. 4 8a. 8p., and Rs. 2 as the average

average monthly wages of men, women, and children respectively, while the Joint Magistrate observes that the wages of men in some cases rise as high as Rs. 15 per mensem, and compare favourably with the wages of labourers outside factories and with the income of petty cultivators. In Bellary wages are said to vary from three to six annas per diem in the case of men, and from two to four annas in the case of women, rates which compare favourably with those of ordinary agricultural labourers. In Madura the factory rates appear to be much the same as those prevailing generally in Madura town, which are about 25 per cent. higher than the wages given in the rural tracts. In Malabar wages rise to four and a-half annas per diem in the case of adult males, and are said to compare favourably with those earned by agricultural labourers; a similar remark is made in the report from Godavari. The information on the subject of wages supplied by the inspectors would have been of more value had they distinctly specified in each case the nature of the work on which operatives drawing a certain rate of pay are employed.

7. There were 2,250 women and 1,424 children employed, and the conditions imposed by law upon their employment seem to have been strictly observed. The Deputy Magistrate of Calicut Division observes that the introduction of the new rules has led to the dismissal of the children employed at the Calicut Tile Works in Cheruvannúr amsam, and from a remark made by the inspector upon the Madura Cotton Spinning Factory it would seem that there too the increased stringency of the regulations upon child labour has led to a diminution in the number of children employed. In the Coffee-curing Works in Malabar complaints were made against the rules which require the maintenance of registers of the women and children employed, but, as remarked by the Deputy Magistrate, the necessity for these registers will disappear if the machine sheds are isolated; the Government is most reluctant to impose upon manufacturers any restrictions which the law does not render absolutely essential. Generally it may be said that the amended Act has worked without friction, and as 16·1 per cent. of the operatives employed at the close of 1892 consisted of women and children, against 9·8 and 10·4 per cent. at the close of 1891 and 1890 respectively, it seems clear that the stringency of the provisions of the present law regarding female and child labour has not resulted in any general dismissal from employment of women and children.

8. Certificates of age seem to have been granted under Section 5 of the Act in a great number of cases, and these certificates were generally kept filed, as required by rule. There is no reason to suppose that evasion of the law regarding the employment of children below the age of nine years is frequent. On the contrary, the inspectors seem to have paid particular attention to this part of their duty, and to have insisted in all doubtful cases upon the production of certifying surgeons' certificates, which were nearly always forthcoming.

9. The fencing of machinery and gearing is reported to be generally satisfactory, but there were 131 accidents, against 93 in the preceding year, and of these three were fatal and 17 were of a serious character. There were no prosecutions instituted under the Act.

(True Extract.)

(signed) *J. F. Price,*
Chief Secretary.

To all District Magistrates.
„ the Public Works Department.
„ the Commissioner of Police, Madras.
„ the Inspector General of Police.
„ the Surgeon-General, through the Public Department.
Editors' Table.

APPENDIX to Government Order,

FORM II.—STATEMENT accompanying the Annual Provincial

Madras

Name of District.	Number of Factories within the scope of the Act.																		
	Cotton Mills.	Jute Mills.	Woollen Mills.	Paper Mills.	Brewers.	Flour Mills.	Cotton Cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Iron Works or Foundries.	Sugar Works.	Printing Presses.	Coffee Works.	Cement Works.	General Engineering Workshops.	Tile Works.	Other Factories within scope of Act.	Total of Columns 2 to 15.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	14 (*a*)	14 (*b*)	14 (*c*)	14 (*d*)	15	16
1. South Arcot	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	*–	2
2. Bellary	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
3. Chingleput	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
4. Coimbatore	1	–	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	3
5. Ganjam	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
6. Godavari	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	2
7. Kistna	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1
8. Madras	4	–	–	–	–	–	–	–	–	–	4	–	2	–	2	3	–	2	17
9. Madura	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	2
10. Malabar	1	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	2	1	7
11. Salem	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
12. Tanjore	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
13. Tinnevelly	3	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	5
14. Trichinopoly	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1
15. Vizagatam	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
TOTAL	10	1	–	–	–	–	–	2	–	–	11	3	2	3	2	6	2	4	46

Name of District.	Number of Factories entered in Columns 2 to 16, worked mainly by				Number of Factories entered in Columns 2 to 16.					
	Shifts or Sets.	Midday Stoppages.	Otherwise.	Total of Columns 34 to 36.	In which General Holiday ordinarily given.		Exempted.		Worked Otherwise, i.e., not falling under Columns 38 to 41.	Total of Columns 38 to 42.
					On Sundays.	On varying Week Days.	Under Section 5B (2) (*c*).	Under Section 5B (2) (*d*).		
	34	35	36	37	38	39	40	41	42	43
1. South Arcot	–	1	(*a*) 1	2	1	1	–	–	† –	2
2. Bellary	–	1	–	1	1	–	–	–	–	1
3. Chingleput	–	1	–	1	1	–	–	–	–	1
4. Coimbatore	–	3	–	3	3	–	–	–	–	3
5. Ganjam	–	–	(*b*) 1	1	–	–	–	–	1	1
6. Godavari	–	2	–	2	2	–	–	–	–	2
7. Kistna	–	1	–	1	1	–	–	–	–	1
8. Madras	1	14	(*c*) 2	17	16	–	–	–	1	17
9. Madura	–	1	(*d*) 1	2	2	–	–	–	–	2
10. Malabar	–	7	–	7	7	–	–	–	–	7
11. Salem	–	1	–	1	1	–	–	–	–	1
12. Tanjore	–	1	–	1	1	–	–	–	–	1
13. Tinnevelly	–	4	(*e*) 1	5	3	–	–	–	2	5
14. Trichinopoly	–	1	–	1	1	–	–	–	–	1
15. Vizagapatam	–	1	–	1	1	–	–	–	–	1
TOTAL	1	39	6	46	41	1	–	–	4	46

* 1 Coach-building Factory, 1 Paddy-grinding, Cleaning and
† In these Factories holidays are granted either on Sundays

No. 1447, dated 17th July 1893, Judicial.

Report on the Working of the Factories Act during 1892.

Presidency.

Number of Factories entered in Columns 2 to 16.										Average Daily Number of Operatives Employed in the Factories entered in Columns 2 to 16.						
			Inspected during the Year.							Adults.			Children.			
In which steam-power is used.	In which steam-power is not used.	Total of Columns 17 and 18.	Once only.	Twice (but not three times).	Three times.	More than three times.	Total of Columns from 20 to 23.	Not inspected during the year.	Total of Columns 24 and 25.	Males.	Females.	Total.	Males.	Females.	Total.	Total of Columns 29 and 32.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
2	–	2	–	2	–	–	2	–	2	959	40	999	–	–	–	999
–	1	1	–	–	–	1	1	–	1	69	–	69	–	–	–	69
1	–	1	–	–	–	1	1	–	1	2,974	–	2,974	–	–	–	2,974
3	–	3	1	1	–	1	3	–	3	411	171	582	156	22	178	760
1	–	1	–	–	–	1	1	–	1	–	–	–	–	–	–	–
2	–	2	–	1	1	–	2	–	2	194	21	215	1	1	2	217
1	–	1	–	–	1	–	1	–	1	203	–	203	–	–	–	203
17	–	17	1	3	12	1	17	–	17	8,861	260	9,121	433	36	469	9,590
2	–	2	–	1	1	–	2	–	2	564	83	647	112	–	112	759
7	–	7	2	2	1	2	7	–	7	1,006	1,124	2,130	158	181	339	2,469
1	–	1	–	1	–	–	1	–	1	52	–	52	–	–	–	52
1	–	1	–	–	–	1	1	–	1	2,462	–	2,462	–	–	–	2,462
4	1	5	–	1	2	1	4	1	5	1,205	470	1,675	285	33	318	1,993
1	–	1	–	–	–	1	1	–	1	596	–	596	6	–	6	602
1	–	1	–	1	–	–	1	–	1	642	81	723	–	–	–	723
44	2	46	4	13	18	10	45	1	46	20,198	2,250	22,448	1,151	273	1,424	23,872

Number of Accidents during the Year in Factories entered in Columns 2 to 16.				Number of Persons Convicted during the Year in respect of Factories entered in Columns 2 to 16.												REMARKS.
				Under Section 15 (1) of the Factories Act, Clauses										Under Section 15 (2) of the Factories Act.	Total of Columns 57 to 58.	
Fatal.	Serious.	Minor	Total	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	Total (*a*) to (*i*).			
44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
–	3	5	8	–	–	–	–	–	–	–	–	–	–	–	–	(*a*) Worked both by shifts and stoppages.
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	8	8	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	(*b*) Worked both by shifts and stoppages.
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
1	7	57	65	–	–	–	–	–	–	–	–	–	–	–	–	(*c*) In one adults are allowed midday stoppages and children are worked by shifts, and in the other continuous work from 8 a.m. to 4 p.m.
–	1	1	2	–	–	–	–	–	–	–	–	–	–	–	–	(*d*) Worked both by shifts and mid[redacted]oppages.
–	–	12	12	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	14	14	–	–	–	–	–	–	–	–	–	–	–	–	
1	3	2	6	–	–	–	–	–	–	–	–	–	–	–	–	(*e*) By midday stoppages and by employment of coolies, who relieve each other every six hours.
1	–	7	8	–	–	–	–	–	–	–	–	–	–	–	–	
–	3	4	7	–	–	–	–	–	–	–	–	–	–	–	–	
3	17	111	131	–	–	–	–	–	–	–	–	–	–	–	–	

Oil Manufactory, 1 Manure Manufactory, and 1 Rice Factory.
or on varying Week Days.

No. 3805, dated Bombay Castle, 24 October 1893.

From *W. L. Harvey*, Esq., I.C.S., Under Secretary to the Government of Bombay, General Department, to the Secretary to the Government of India, Home Department.

WITH reference to the correspondence ending with Mr. Under Secretary Luson's letter, No. 1247, dated 30th ultimo, I am directed by his Excellency the Governor in Council to forward, herewith, for submission to the Government of India, 40 copies of the Annual Provincial Report on the Working of the Indian Factories Act in the Bombay Presidency, including Sind, for the year 1892.

(No. F. I.—75 of 1893.)

From the Collector of Land Revenue, Customs and Opium, Bombay; to the Chief Secretary to Government, General Department, Bombay.

Sir, Bombay, Collector's Office, 27 June 1893.

IN accordance with Government Resolution, General Department, No. 4529, dated the 8th December 1892, I have the honour to submit the Provincial Report on the working of the Indian Factories Act for 1892.

2. I have the honour to forward also, as an accompaniment to the Provincial Report, the annual report of the Chief Inspector, Bombay, as it deals with several questions that were much discussed last year when reports were submitted in answer to the inquiries of the Royal Commission on Labour.

3. A satisfactory feature in the report now forwarded is the explanation that the mass of unsettled mill workers are not "wasters," but are persons whose interest in land in Ratnágari and elsewhere makes it convenient or necessary for them to spend a portion of each year in their homes. The remarks on the subject of the absence of elderly workers in Bombay mills, a peculiarity which has been brought forward to support statements regarding the depressed and unwholesome conditions of Bombay factory life, are also of value.

4. The want of a special factory inspector in Bombay has added considerably to the duties of the chief inspector. Both Mr. Jehangir and Mr. Jackson have overtaken this extra work. At the same time I would notice that this has involved a somewhat excessive demand on the mornings of officers whose whole days are also spent in Government duties, and would venture to hope that it may be possible at an early date to sanction some arrangement which will secure the distribution of the duties, whose whole weight, during the past year, has fallen upon the chief inspector.

5. Under the head of Accidents, I agree with the chief inspector in thinking that even with due care and caution the present system of replacing belts on machinery in motion is not free from risk to life. At the same time its liability to get torn [redacted] broken belts seems to prevent the Karimbhai mill platform or other similar arrangement being accepted as a solution of the difficulty.

6. Mr. Jackson's remarks at paragraph 22 on the hardship caused by the customary delay in paying wages, support the remarks offered last year for the consideration of Government. Some lessening of delay in the payment of wages seems both practicable and necessary.

7. The

7. The stricter rules regarding the working of children, combined with the introduction of machinery intended to be worked by children, made the demand for children so considerably in excess of the supply, that, from want of boy-hands, some mills with the new machinery were unable to work all their frames. This state of things offered considerable temptation both to boys and to employers to work overtime. Certain suspicious cases came under notice, but in no case did inquiry succeed in confirming the suspicion. In connection with certain restrictions, such as the long mid-day rest for women, and the reduced hours for children, as the workers would gladly be free from these restrictions, irregularities are difficult of detection and may occur. At the same time if such irregularities occur they are uncommon. Inquiry showed accusations and suspicions to be either unfounded or to have led to the discontinuance of the irregularity. This result is probably partly due to the fact that the only prosecution under the Act during the past year was successful in securing a conviction, and the levy of a substantial fine.

8. Some opposition to the ventilation rules must be expected. But except in a few of the older factories, it is believed that no very considerable changes will be required to meet the wishes of Government.

9. On the whole the results of the past year's inspection are satisfactory. Acknowledgments are due to the Mill Owners' Association for their determination that the changes required under the amended Act should be carefully attended to, and to the foresight of the proprietors and managers of mills in having all arrangements in readiness to start the new system from the beginning of the calendar year. The concession, approved by Government, of substituting warning for prosecution, in the case of any unavoidable or explainable delay in introducing the new arrangements for a few months after the new Act came into force, prevented hardship and friction, in the few cases of delay in in enforcing the amended provisions.

10. I regret the delay which has arisen from the fact that a report of this nature has never been submitted before, and that it has been difficult to obtain the required information.

I have, &c.
(signed) *J. M. Campbell,*
Collector of Land Revenue, Customs and Opium.

PROVINCIAL Report on the Working of the Indian Factories Act in the Bombay Presidency for the year 1892.

The accompanying provincial form No. II. shows that there are in the Bombay Presidency 253 factories, of which nearly half (119) are situated in the town and island of Bombay. The total of 253 includes 14 cotton-gins and presses in Khándesh and eight cotton presses in Bombay returned as employing less than 50 hands. In these cases the figures returned represent only the permanent staff, much of the work being done by temporary hands employed by contractors, whose number varies from day to day.

2. Of the total of 253 factories, 157 work all the year round, while 96, comprising the cotton-gins and presses, are seasonal, beginning work in November and continuing to run till March or June, according to the state of the market and the yield of the cotton harvest.

3. By far the most important industry is that which deals with raw or unmanufactured cotton which employs in 194 factories, 91,107 hands. The chief centres of the cotton spinning and weaving industries are Bombay with 64, or, including two mills on the border of Thána district, 66 factories; Ahmedabad with 12, and Surat with three. Cotton-ginning and pressing is carried on in 73 factories in Khándesh, 11 in Bombay, nine in Hyderabad,

seven in Sholápur, four in Bijápur, and three in Ahmednagar, to which must be added others in Gujarát and elsewhere, which employ less than 50 hands, and therefore do not come within the scope of the Factory Act.

4. In accordance with the orders of the Government of India conveyed in Government Resolution, General Department, No. 846 of 16th March 1892, an inspector was appointed to supervise the working of the Act in the Mofussil and to assist the chief inspector in Bombay. The office was first held by Mr. H. Monie (14th—19th March 1892), who, during his short tenure, inquired into the effect of the Act on the employment of women in the cotton mills of Ahmedabad. Mr. Monie was succeeded by Mr. N. A. Moos, who reverted to his permanent appointment in the Elphinstone College on 31st October last. Since November the office of the inspector has been vacant pending the consideration of proposals for amalgamating the Factory and Steam Boiler Inspection Departments.

5. Of the total of 253 factories, 160 were inspected more than three times during the year, 20 three times, 34 twice, and 30 once only. Nine factories, including six in Khándesh and two in Hyderabad, were not inspected at all. All these were seasonal factories, which the Collector could not arrange to visit during the working months. Of the total of 954 inspections, 239 were made by the Collectors, 316 by the Special Inspector, 343 by the Chief Inspector in Bombay, and 56 by other officers. Since the close of the year under report, the Assistant Collectors in several districts have been appointed Inspectors of Factories.

6. No joint-inspectors have yet been appointed, as the rules for their guidance are still under consideration.

7. All the Collectors report that the provisions of the Act regarding the weekly holiday and the mid-day rest are duly observed. Sunday appears to be the usual holiday except when some important native holiday falls on a week-day; but the Collector of Khándesh remarks that in his district the weekly holiday is generally given on the local bazár day. In Bombay, Sunday is almost always the holiday, as on that day the mill-hands meet their friends who are employed in other occupations. No special difficulty has been felt in enforcing the Act, though it may be difficult to ensure that the hands shall get a full half-hour at mid-day. Only one factory in the Presidency, the Bombay Gas Works, has been exempted from the rule as to Sunday work. Certain ginning mills in Khándesh applied for exemption, but as there appeared to be nothing in the conditions of the industry to render it necessary, the exemption was not granted.

II.—Sanitary Condition.

8. The sanitary condition of the factories appears to be on the whole satisfactory. As might be expected, the larger establishments are better kept than the smaller ones. In no case is the sanitary state of any mill described as distinctly bad, though many orders on particular points have been issued, chiefly as regards whitewashing and latrine accommodation.

9. As regards this last point, it is reported from several districts that no latrines exist, the mill hands like their neighbours resorting to the fields. This is the case in Hyderabad, Khándesh, and Ahmednagar. The Collector of Khándesh says: "As the factories are generally in the open country there seems no need to insist on having any (latrines)." In Bombay there has been some difficulty in providing latrines in factories in the fort, where little space is available for such purposes, but these difficulties have been gradually overcome. The least satisfactory of the Bombay factories from a sanitary point of view are the cotton presses.

10. The

10. The ventilation rules are reported to be in some respects unsatisfactory, especially the requirement of 10 square feet of lateral opening per head. The Collector of Thána, indeed, says "the rules regarding ventilation are reported to be almost, if not altogether, unworkable, especially in cotton spinning factories." The question has been the subject of a correspondence between the Collector of Bombay and the Mill Owners' Association, which body contends that the lateral openings required by the rule are larger than can possibly be provided. It is certainly true that none of the Bombay mills for which measurements are available have lateral openings approaching the required size. The subject has not yet been finally reported on, and no orders have, therefore, as yet been issued under the rule.

III.—General Health of the Operatives.

11 The district reports are in accord with the Medical Committee of 1885 that the health of the factory hands is not inferior to that of other persons of the same rank in life. No specific diseases traceable to the nature of their employment are reported to exist, and in some respects the operatives are better off than their fellows of other trades, as their wages are generally higher. The Collector of Thána says:—

> "The conditions under which the hands live and work are more favourable to health than those of most other business of this district, and the general health of the operatives, especially of the women, is good."

12. The Collector of Khándesh draws attention to another point of great importance in this connection: "As the factories are closed for so many months in the year, and all the unskilled hands disbanded . . . working in a factory is an incidental but not the main business of their lives." As has already been stated, 96 factories are seasonal only, and in the off season only the small permanent staff is required to clean the engines and sweep the floors is kept. Again, much of the work in these seasonal factories is done by petty contract, and the hands employed vary from day to day. Hence the factory hands are not so much a separate class as a part of the general body of unskilled labourers who have taken to cotton pressing or ginning for a time. Even in the more skilled branches of cotton manufacture a very large percentage (in Bombay quite 75 per cent.) of the mill-hands are cultivators, who frequently take holidays to revisit their homes. It follows that their work is not nearly so severe and continuous as in European countries.

13. The percentage of absentees varies greatly from mill to mill, and is by no means due to sickness alone. It has already been explained that the habits of the operatives as a body are extremely migratory; whence it follows that they often leave work on all sorts of private business, and such absences swell the percentages of the factories concerned. In Bombay especially the majority of the mill-hands are Konkani Marathas, who are in the habit of taking frequent holidays to visit their villages.

14. Another result of the ease with which the operatives pass from agriculture to factory work and back again is the general low average of age among the hands in the cotton mills. This is not due to the employment of large numbers of children, but to the fact that the operatives retire to their villages as soon as they have made a little money. Ahmedabad appears to be the only great centre of the cotton industry that possesses what may be called a separate mill population. The Collector reports that the ages of full-time hands varies from 14 to 45, and that "the number of years that the workers continue to work may be taken at 30." In two of the Surat mills the Collector reports the average age of the hands as from 15 to 27, and in the other from 14 to 55. In the only one of the Thana mills for which figures are available the average is 24. In Bombay the workers are seldom over 40, and practically are never seen

over 50 years of age. In Broach and Kaira the mill-hands do not seem to stick to mill-work long, whereas in Dhárwár the reverse is the case, though even there the average age is 30 years only.

15. In paper mills, founderies, and other year-round factories the average age of the hands appears to be much the same as in cotton mills. In seasonal factories the hands vary from day to day, so that their average is not ascertainable, but they belong to the same class as the ordinary coolie or day labourer.

16. The total factory population dealt with in this report includes 118,470 souls, of whom 22,844 are women and 5,946 children. Of this total 77,872 are employed in cotton spinning and weaving, 8,028 in cotton pressing and cleaning, 1,552 in other textile industries (wool, hosiery, and silk), 12,196 in railway workshops, 3,466 in iron works, 2,140 in printing presses, and the remainder in various mining industries. The skilled hands employed in silk weaving, in iron works and in printing presses form a separate artizan class; but the whole of those employed in cotton pressing and cleaning as well as a large majority of the cotton spinners and weavers, and a number of the less skilled hands who work in the railway workshops, are drawn from the cultivating classes and take to mill-work as a more or less temporary occupation.

17. In Bombay three-fourths of the cotton mill-hands are Maráthas from the Ratnágirri district. In Kaira, the Collector reports that "about 50 of the operatives absent themselves from the mill-work in the monsoon to cultivate their own land." The Collector of Broach says "the workers very often shift from one service to another." In Thána, the Collector reports that "there are a few operatives only in the Kurla Mills who live by factory work alone; a large number of them go at different times of the year to their native places to relieve the other members of their family in operations of agriculture." On the other hand, the operatives of the Dhárwár Mill seem to have taken to mill-work more steadily, as the Collector reports that "some local operatives work in the mill when there is no work in their fields, but these cases are rare." For Belgaum no information is available. In Ahmedabad and Surat only does there seem to be a permanent class of factory workers who do not look forward to going back to agriculture. The Collector reports "most of the hands live by factory work only," and "the number of years that the workers continue to work may be taken at 30." In Surat the hands appear to be chiefly drawn from classes which are not primarily agricultural, such as Dheds, Ghánchis (oil-pressers), Dhobis (washermen), and Khatris. These two districts employ between them 10,228 hands. The cotton mill population of the other districts, where it is more or less largely agricultural and shifting, numbers 66,438, excluding Belgaum.

IV.—Wages and General Condition.

18. In Bombay Cotton Mills full-time male operatives earn from Rs. 7 (carding-room hand) to Rs. 20 (spinner); women get Rs. 7 to Rs. 8 (reelers and winders), and children Rs. 6 to Rs. 7 (doffers and piecers). Wages are usually paid by the piece, so that the earnings are higher in summer than in winter. For Ahmedabad no detailed figures are available. The Collector of Surat reports that in that district men earn Rs. 12, women Rs. $7\frac{1}{2}$, and children Rs. 4 per month. In the Kaira Mill, adults earn from Rs. 7 to Rs. 14, and boys Rs. 3 to Rs. 5. The Collector of Dharwar reports "the wages are higher than those earned by persons of the same class on other work."

19. For factories not connected with the cotton industry very little information is available. In the railway workshops at Igatpuri in the Násik District coolies get from Rs. 8 to Rs. 15, and mechanics Rs. 12 to Rs. 25 per month.

20. Much

20. Much difficulty has been experienced in getting information about "family earnings," and the expression has sometimes been misunderstood. The Collector of Surat reports that the earnings of a family, consisting of a man, his wife, and one child of working age, would be Rs. 23½ per month. In Bombay it would be Rs. 25 to Rs. 26. In the Dhárwár Mill a man and his wife with two children are reported to earn Rs. 18 to Rs. 20.

21. The reports as regards indebtedness are necessarily very vague, but the only cause of debt specially connected with factory work is the Bombay system of keeping wages two months in arrear, which forces some hands into debt on first engagement or return from leave. As has been shown above, the majority of the workers are agriculturists and naturally share the fortunes of their class. Of the Ahmedabad operatives the Collector says, "As to indebtedness, no reliable information is forthcoming; but the majority do not seem to be in debt." The Collector of Surat reports, "The Dheds are in debt almost to a man, owing to their drinking habits. Higher castes are reported to be free from debts."

22. The cost of living among factory hands (at least in the cotton industry) is that of the ordinary peasant or day labourer, and in Gujarát varies from Rs. 3 to Rs. 5 per month, the latter figure being usual in Ahmedabad and Surat. Rs. 5 is also reported as the usual figure in the Thána district, while in Bijápur and Dhárwár the average seems to be about Rs. 4. In Bombay it would be higher than any of these.

V.—Employment of Women and Children.

23. Of the total of 22,844 women, 18,335 were employed in cotton spinning and weaving, 3,435 in cotton pressing and cleaning, 249 in other textile industries, and the remaining 825 in small numbers in other occupations. Those employed in cotton mills work in the reeling and winding departments only, many of them on hand machines. Before the present Act came into force women were largely employed in the Gujarát mills as frame-minders, two women tending one frame. When the period of women's work was limited to 11 hours this system was given up, and the women were gradually transferred to the reeling and winding departments, their places being taken by men. Certain Ahmedabad operatives petitioned the Government of Bombay for exemption from the 11-hours limit. It appeared that some 259 women had already been thrown out of employment, and that the wages of the rest were reduced 25 per cent., but the women dismissed were gradually coming back as reelers. It was therefore decided that it would be unnecessary to exempt the Ahmedabad mills (Government Resolution, General Department, No. 2815, of 13th August 1892). In other parts of the Presidency the new Act does not seem to have caused hardship to the women workers.

24. In Gujarát and Thána the average hours of work for women seem to be the legal maximum of 11 hours. In Bombay the hours vary from 9½ in winter to 11 in summer. In Khándesh they are from 8 to 11, in Sholápur and Dhárwár 10, and in Bijápur from 10 to 11. None of the districts report any special difficulty in enforcing the law. But the meaning of the section which requires that women shall have 1½ hours' rest seems to be sometimes misunderstood. In Broach, for instance, the women are reported to get only half an hour's rest in the middle of the day. It might, perhaps, be more convenient to the women themselves to curtail the midday rest and let them go home earlier in the evening, but this is not allowable under the present wording of the Act.

25. Of the total of 5,946 children, 4,672 are boys and 1,274 girls; 5,205 were employed in cotton mills, of whom 3,609 worked in Bombay as piecers and doffers; 678 were similarly employed in Ahmedabad, 339 in Belgaum, 266 in Thána, and 243 in Surat. Only 276 children were employed in cotton gins

and presses, chiefly in Hyderabad (192) and Khándesh (83). With the exception of 197 children in the Small Arms Ammunition Factory at Poona and 100 in various printing offices in Bombay, the number of children employed in industries unconnected with cotton is very small. No special difficulty is found in enforcing the law for their protection, though two prosecutions have taken place, of which details will be given below.

26. The maximum of seven hours is the average for children's work in Ahmedabad, Thána, Poona, Belgaum, and one of the Surat mills. In Kaira and Dhárwár the average is $6\frac{1}{2}$ hours, in Bombay and Khándesh six, and in Broach and Surat $5\frac{1}{2}$. The legal half-time period fits easily into the general scheme of work, and the new Act does not seem to have caused hardship to any children except those between seven and nine, who became ineligible for employment.

27. The statistics of certificates granted by the certifying surgeons are imperfect; but so far as they go they support the conclusions expressed above regarding the age of the workers, and the rapidity with which they change from one occupation to another. For instance, in the city of Ahmedabad, with a cotton mill population of 8,037, 2,200 certificates were granted. This very large number indicates, firstly, that the children do not remain long in the mills but change very rapidly; and, secondly, that a very large number of the hands are so little over 14 that it is thought necessary to send them up to be certified. Similar conclusions may be drawn in the case of Surat (277 certificates and 862 hands), Broach (147 certificates and 711 hands), and Thána (636 certificates and 3,877 hands).

VI.—Fencing of Machinery.

28. The fencing of machinery is reported satisfactory in all districts except Khándesh, of which the Collector says, "apparently about one-fourth of the factories were found not to have their machinery properly fenced." Orders have been given to remedy the defects that have come to notice. Factories are now, as a rule, supplied with properly guarded machinery at starting, and the inspector's principal task is to see that these guards are replaced when they get worn out.

VII.—Accidents.

29. Of the 731 accidents reported during the year, 13 were fatal and 79 serious. Of the five fatal accidents in Bombay, two were sudden deaths from natural causes, and were reported only because they occurred on the factory premises; the other three occurred in replacing belts on moving pulleys. Of the three deaths in Khándesh, two were caused by the men's own carelessness and one by defects in the machinery, which were promptly remedied. One death at Ahmednagar is also reported to have been due to defective arrangements in the factory.

30. The Chief Inspector, Bombay, has been in correspondence with the Millowners' Association regarding the prevention of accidents in replacing belts on moving pulleys, and some of his suggestions have been adopted by that body. He calls attention in his report to the use of fixed platforms in some Bombay mills as substitutes for the ladders more commonly used in replacing belts.

VIII.—Prosecutions.

31. Only two prosecutions took place during the year; the earlier one in Bombay, when the Chief Inspector prosecuted the owner of the Ookerda Khetsey Mill for—

(1) Omitting to give the midday rest.

(2) Working children under 14 as full-timers.

(3) Omitting to give the legal 1½ hours' rest to women.

The owner of the mill was convicted and fined Rs. 200. In the other case Mr. Moos, the Presidency Inspector, prosecuted the directors of the Jafferali Mills Company at Surat for employing under-age children in breach of the Act. The directors were convicted, but the conviction was quashed in appeal on the ground that the manager was the person responsible.

J. M. Campbell,
Collector of Land Revenue, Customs, and Opium.

Bombay Collector's Office, 27 June 1893.

FORM II.—STATEMENT to accompany Annual Provincial

BOMBAY

—	NAME OF DISTRICT.	Number of Factories within the scope of the Act.												
		Cotton Mills.	Jute Mills.	Woollen Mills.	Paper Mills.	Breweries.	Flour Mills.	Cotton-cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Iron Works or Foundries.	Sugar Works.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	
—	1. Town and Island of Bombay.	64	-	2	-	-	3	1	10	-	-	8	-	1
Northern Division -	2. Ahmedabad -	12	-	-	-	-	-	-	-	-	-	-	-	2
	3. Broach - -	1	-	-	-	-	-	-	-	-	-	-	-	3
	4. Kaira - - -	1	-	-	-	-	-	-	-	-	-	-	-	4
	5. Surat - - -	3	-	-	-	-	-	-	-	-	-	-	-	5
	6. Thána - -	2	-	-	-	-	-	-	-	-	-	-	-	6
Central Division -	7. Khándesh - -	1	-	-	-	-	-	56	17	-	-	-	-	7
	8. Násik - - -	-	-	-	-	-	-	-	-	-	-	-	-	8
	9. Poona - - -	-	-	-	1	1	-	-	-	-	-	-	-	9
	10. Sholápur - -	1	-	-	-	-	-	2	5	-	-	-	-	10
	11. Ahmednagar -	-	-	-	-	-	-	-	3	-	-	-	-	11
Southern Division -	12. Belgaum - -	1	-	-	-	-	-	-	-	-	-	-	-	12
	13. Bijápur - -	-	-	-	-	-	-	-	4	-	-	-	-	13
	14. Dhárwár - -	1	-	-	-	-	-	-	-	-	-	-	-	14
	15. Ratnágiri - -	-	-	-	-	-	-	-	-	-	-	-	-	15
Sind - - -	16. Hyderabad - -	-	-	-	-	-	1	9	-	-	-	-	-	16
	17. Karáchi - -	-	-	-	-	-	-	-	-	-	-	3	-	17
	18. Shikárpur - -	-	-	-	-	-	-	-	-	-	-	-	-	18
	Provincial Total -	87	-	2	1	1	4	68	39	-	-	11	-	19

Report on the working of the Factories Act.

PRESIDENCY.

	Number of Factories within the scope of the Act.							Number of Factories entered in Columns 2 to 16.			Number of Factories entered in Columns 2 to 16.						
											Inspected during the Year.					Not Inspected during the Year.	
	Printing Presses.	Workshops.	Gun Carriage Factories.	Silk Mills.	Arsenals.	Other Factories within scope of Act.	Total of Columns 2 to 15.	In which Steam Power is used.	In which Steam Power is not used.	Total, Columns 17 and 18.	Once only.	Twice (but not three times).	Three times.	More than three times.	Total, Columns 20 to 23.		Total, Columns 24 and 25.
	14.	14 (a).	14 (b).	14 (c).	(14 d).	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
1	7	6	1	1	1	35	119	119	-	119	-	-	3	116	119	-	119
2	-	-	-	-	-	1	13	13	-	13	-	3	-	10	13	-	13
3	-	-	-	-	-	-	1	1	-	1	-	-	-	1	1	-	1
4	-	-	-	-	-	-	1	1	-	1	-	-	-	1	1	-	1
5	-	-	-	-	-	-	3	3	-	3	-	-	-	3	3	-	3
6	-	-	-	-	-	-	2	2	-	2	-	-	-	2	2	-	2
7	-	-	-	-	-	-	74	74	-	74	18	24	13	13	68	6	74
8	-	1	-	-	-	-	1	1	-	1	-	-	-	1	1	-	1
9	-	1	1	-	-	2	6	6	-	6	-	-	-	5	5	1	6
10	-	-	-	-	-	-	8	8	-	8	4	4	-	-	8	-	8
11	-	-	-	-	-	-	3	3	-	3	-	3	-	-	3	-	3
12	-	-	-	-	-	-	1	1	-	1	-	-	-	1	1	-	1
13	-	-	-	-	-	-	4	4	-	4	-	-	4	-	4	-	4
14	-	1	-	-	-	-	2	2	-	2	-	-	-	2	2	-	2
15	-	-	-	-	-	1	1	1	-	1	-	-	-	1	1	-	1
16	-	-	-	-	-	-	10	10	-	10	8	-	-	-	8	2	10
17	-	-	-	-	-	-	3	3	-	3	-	-	-	3	3	-	3
18	-	1	-	-	-	-	1	1	-	1	-	-	-	1	1	-	1
19	7	10	2	1	1	19	253	253	-	253	30	34	20	160	244	9	253

(*Continued on page 62.*)

FORM II.—STATEMENT to accompany Annual Provincial

BOMBAY

—	NAME OF DISTRICT.	Average Daily Number of Operatives Employed in the Factories entered in Columns 2 to 16.							Number of Factories entered in Columns 2 to 16 worked mainly by				
		Adults.			Children.			Total of Columns 29 and 32.	Shifts or Sets.	Mid-day Stoppages.	Otherwise.	Total of Columns 34 to 36.	
		Males.	Females.	Total.	Males.	Females.	Total.						
		27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	
—	1. Town and Island of Bombay.	64,380	16,502	80,882	3,081	698	3,779	84,661	1	118	–	119	1
Northern Division	2. Ahmedabad	7,167	987	8,154	529	149	678	8,832	–	13	–	13	2
	3. Broach	587	96	683	28	–	28	711	–	1	–	1	3
	4. Kaira	384	56	440	4	–	4	444	–	1	–	1	4
	5. Surat	912	385	1,297	146	97	243	1,540	–	3	–	3	5
	6. Thána	2,876	735	3,611	192	74	266	3,877	–	1	1	2	6
Central Division	7. Khándesh	3,821	2,738	6,559	69	14	83	6,642	49	23	2	74	7
	8. Násik	419	1	420	–	–	–	420	–	1	–	1	8
	9. Poona	2,364	57	2,421	210	7	217	2,638	–	6	–	6	9
	10. Sholápur	600	252	852	–	–	–	852	1	7	–	8	10
	11. Ahmednagar	144	42	186	–	–	–	186	–	3	–	3	11
Southern Division	12. Belgaum	520	347	867	189	150	339	1,206	–	1	–	1	12
	13. Bijápur	76	156	232	1	–	1	233	–	4	–	4	13
	14. Dhárwár	1,542	234	1,776	31	7	38	1,814	–	2	–	2	14
	15. Ratnágiri	130	–	130	57	–	57	187	–	1	–	1	15
Sind	16. Hyderabad	235	256	491	135	78	213	704	–	10	–	10	16
	17. Karáchi	1,894	–	1,894	–	–	–	1,894	–	3	–	3	17
	18. Shikárpur	1,629	–	1,629	–	–	–	1,624	–	1	–	1	18
	Provincial Total	89,680	22,844	112,524	4,672	1,274	5,946	118,470	51	199	3	253	19

Columns 1 to 47 of this statement should be prepared from the statements accompanying the District Annual Reports on the working of the Factories Act, and the instructions given on the forms of those statements should, so far as applicable, be followed in the preparation of this statement. If the systems of working referred to in Columns 34 to 43 have been altered during the year in any factory, the system in force at the end of the year should be shown in these columns. Columns 43 to 59 should be prepared from statistics specially furnished by district officers in respect of districts, and by the Chief Inspector or other officer designated by the Local Government in respect of the Presidency town.

Report on the working of the Factories Act—*continued.*

PRESIDENCY—*continued.*

	Number of Factories entered in Columns 2 to 16.						Number of Accidents during the Year in Factories entered in Columns 2 to 16.				Number of Persons convicted during the Year in respect of Factories entered in Columns 2 to 16.											
	On which General Holiday ordinarily given.		Exempted.								Under Section 15 (1) of the Factories Act Clauses.										Under Section 15 (2) of Factories Act.	Total, Columns 57 and 58.
	On Sundays.	On varying Week-days.	Under Section 5 B (2) (c).	Under Section 5 B (2) (d).	Worked "otherwise," i.e., not falling under Columns 38 to 41.	Total, Columns 38 to 42.	Fatal.	Serious.	Minor.	Total.	a.	b.	c.	d.	e.	f.	g.	h.	i.	Total, (a) to (i).		
	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.
1	118	–	1	–	–	119	4	56	475	535	1	–	–	–	–	–	–	–	–	1	–	1
2	13	–	–	–	–	13	1	2	43	46	–	–	–	–	–	–	–	–	–	–	–	–
3	1	–	–	–	–	1	1	–	1	2	–	–	–	–	–	–	–	–	–	–	–	–
4	–	1	–	–	–	1	–	–	3	3	–	–	–	–	–	–	–	–	–	–	–	–
5	3	–	–	–	–	3	–	–	16	16	–	–	–	–	–	–	–	–	–	–	–	–
6	1	1	–	–	–	2	–	–	15	15	–	–	–	–	–	–	–	–	–	–	–	–
7	25	47	–	–	2	74	3	6	19	28	–	–	–	–	–	–	–	–	–	–	–	–
8	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
9	6	–	–	–	–	6	–	2	13	15	–	–	–	–	–	–	–	–	–	–	–	–
10	8	–	–	–	–	8	–	4	4	8	–	–	–	–	–	–	–	–	–	–	–	–
11	3	–	–	–	–	3	1	2	1	4	–	–	–	–	–	–	–	–	–	–	–	–
12	1	–	–	–	–	1	–	–	19	19	–	–	–	–	–	–	–	–	–	–	–	–
13	4	–	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
14	2	–	–	–	–	2	1	5	3	9	–	–	–	–	–	–	–	–	–	–	–	–
15	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16	10	–	–	–	–	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
17	3	–	–	–	–	3	1	2	7	10	–	–	–	–	–	–	–	–	–	–	–	–
18	1	–	–	–	–	1	1	–	20	21	–	–	–	–	–	–	–	–	–	–	–	–
19	201	49	1	–	2	253	13	79	639	731	1	–	–	–	–	–	–	–	–	1	–	1

After Column 14 should be added as many columns (14 (*a*), 14 (*b*), 14 (*c*), &c.) as are necessary for showing any class of factories other than those specified in Columns 2 to 14 of which any considerable number are worked in any Province. Any class of factories of which there are 10 or more in a Province should be separately shown. Specially important industries should be separately shown, even if there are less than 10 factories.

The totals of Columns, 16, 19, 26, 37, 43 should agree, or the differences should be fully explained.

J. M. Campbell,
Collector of Land Revenue, Customs and Opium.

J.G. p.64 -71

No. F. I. 73 of 1893.

From the Chief Inspector of Factories, Bombay, to the Collector of Land Revenue, Customs, and Opium, Bombay.

Bombay Custom House,
21 June 1893.

Sir,

I HAVE the honour to report as follows on the working of the Factory Act in the town and island of Bombay during the calendar year 1892.

2. The amended Factory Act of 1891 came into force on 1st January 1892, and, in consequence of the change in the definition of a "factory" in Section 2, the number of factories liable to inspection increased from 93 to 119. None of the 26 new factories placed on the inspector's list were textile factories; three were flour mills, six were cotton presses, two were foundries, three were printing presses, two oil mills, one saw mill, two workshops, three hosiery factories, two dockyards, one gas-works, and one ginning factory, employing a total of 2,783 hands.

3. This large addition to the work of the inspector in Bombay, coupled with the necessity of expert inspection in the mofussil, led to the appointment, on 14th March 1892, of Mr. H. Monie to act as Presidency Inspector, and to assist the Chief Inspector in Bombay. On 19th March 1892 Mr. Monie resigned, and was succeeded by Mr. N. A. Moos, who reverted to his permanent appointment in the Elphinstone College on 31st October 1892, since which time the appointment of Presidency Inspector has been vacant, pending the consideration by Government of certain proposals for amalgamating the boiler and factory departments.

4. The office of Chief Inspector of Factories for the town and island of Bombay was held by the following officers during the year 1892:—

Mr. H. L. Wright—1st January to 16th May 1892.
Mr. J. D. Framji—17th May to 24th June.
Mr. A. C. Logan—25th June to 6th August.
Mr. J. D. Framji—7th August to 11th September.
Mr. A. M. T. Jackson—12th September to 31st December.

5. Of the total of 119 factories on the inspector's list at the beginning of the year, 115 remained open throughout the year and were inspected once in each quarter. The remaining four factories were inspected only three times each, owing to the fact that they were not known to be liable to inspection until the second quarter of the year.

The following statement shows the number of inspections made by the Chief Inspector and Special Inspector respectively during each quarter:—

First Quarter:	
Chief Inspector	115
Special Inspector	Nil
Second Quarter:	
Chief Inspector	96
Special Inspector	110
Third Quarter:	
Chief Inspector	61
Special Inspector	113
Fourth Quarter:	
Chief Inspector	71
Special Inspector	22

6. No joint inspectors have as yet been appointed, as the rules for their guidance are still under the consideration of Government.

7. By far the most important industry in Bombay is that of cotton spinning and weaving, which gives employment to a total of 64,830 hands. Of the 64 cotton mills in Bombay, 25 are both spinning and weaving mills, and the rest

are

are spinning mills only. All are year-round factories, working the whole 12 months. The only important class of factories which may be called seasonal consists of the cotton presses, which keep up only a small permanent staff. These presses are in full work from February to the beginning of the rains, the extra temporary hands required being supplied by contractors.

8. The total factory population of Bombay numbers 84,661, but this, in the case of cotton presses and a few minor factories, does not include temporary hands. The largest number employed in all the Bombay factories in any one day is probably about 86,000.

9. No special difficulty has been found in enforcing the provision of the Act as regards the weekly holiday. The change in the law is undoubtedly popular with the workpeople, and does not appear to have adversely affected the interests of the employers. It has, as a general rule, only been necessary to inform millowners of the requirements of the law to ensure their being carried out. Some further remarks on this head will be found in Part V. below. It is not, however, always easy to make certain that the hands get their full half-hour in the middle of the day; it would, in fact, be impossible to prosecute with any hope of success for anything less than entire neglect to stop during the prescribed hours, a case which practically never arises.

10. The Bombay Gas-works were exempted from Section 5 B of the Factories Act under Clause (*c*) ii. of the proviso by Government Resolution, No. 759, of 7th March 1892. No other factory has yet been exempted under this section. An application for exemption was made by proprietors of "The Times of India" Press and supported by this office, but the Government of India declined to sanction the proposal.

II.—Sanitary Condition of Factories.

11. The sanitary condition of the large textile factories in Bombay may be regarded as in general fairly satisfactory, though there is a marked difference between the old and the new mills in favour of the latter. In the iron foundries, dockyards, and other workshops the work is carried on practically in the open air; in most of the printing presses, especially those in the fort, the machinery and the workpeople are crowded into a very confined space, but suffer rather from insufficient light than from want of ventilation. There has been some difficulty in enforcing the rule as to latrine accommodation in factories in the fort, where there is but little space available for extensions of the premises; but this has gradually been overcome. The cotton presses were only brought under the Act last year, and some of them have not been kept so clean as would be desirable. As soon as the year's work is over the machinery is left standing, and the premises are left with cotton fluff sticking all over them, much as they were when the season ended. During the working season the upper room is always full of dust, though the windows are kept open, and the workers tie cloths over their mouths.

12. The question of ventilation in the cotton mills is one of peculiar difficulty, owing to the fact that at certain temperature the cotton fibre becomes too brittle for use in manufacture. The Millowners' Association have argued that the standard of 10 square feet per head of lateral openings required by the rules under the Act is excessive, and takes no account of the conditions of their industry. A separate report on the subject will shortly be submitted. For the present it is enough to say that, while nearly all the Bombay mills provide the required floor space and cubic space per head, few or none come near having the required 10 square feet of window space, and the windows, when they exist, are seldom or never kept open by the workpeople. No artificial means of ventilation is in general use in Bombay. A few mills have roof ventilation and some have openings over the windows; but, as a general rule, the rooms are ventilated through the doors and windows only. While the

 question

question raised by the Millowners' Association remained undecided, it was thought advisable not to issue any orders regarding lateral ventilating openings.

III.—General Health of the Operatives.

13. The general health of the factory hands in Bombay does not markedly differ from that of persons in the same rank of life who follow other occupations. Those manufactures which in England produce specific diseases are not carried on at all in Bombay; the hours of work are limited by daylight, and the habits of the workpeople are so migratory that they seldom spend more than a few years in a factory, and hardly ever depend on mill-work throughout their lives. Further, although the sanitary state of the Bombay mills is not always satisfactory, still it is often superior to that of the homes of the labouring classes generally; and though out-door labourers work under somewhat more healthy conditions than the mill-hands, yet the latter are the better paid and therefore the better nourished.

14. It is said that since the Sunday holiday has been enforced by law the number of absentees has greatly decreased. So far as this is the case it is due to the fact that the Sunday holiday allows the hands to look after the private affairs which they could formerly see to only by absenting themselves from the mill. There is no reason to think that such absence is more often due to sickness than is the case in other occupations. Fully 75 per cent. of the mill-hands belong to the Marátha caste and come from the Ratnágiri district, to which it is their habit to return from time to time for months together, to visit their relatives or to look after their family lands. It is not an uncommon practice for several members of a family to get work in a Bombay mill after the early or kharif harvest (October-November) and to go home at the end of the cold weather (March), their places in the mill being taken by those members of the family who stayed at home before.

15. In reality the Bombay textile industries have hardly yet called into existence a separate class of factory workers, for most of the hands are drawn from the cultivating classes and are, sooner or later, absorbed into them again. Except in a few special industries, such as silk-weaving, which employ hereditary craftsmen who spend their lives in the factory, the operative rarely sticks to factory work longer than from 6 to 10 years altogether, unless he is a solitary man without relatives or land to retire to. The result of this short working period is the general low average of age among the hands, by which a visitor to any Bombay cotton mill cannot fail to be struck. Except a few old women, who are employed to sweep the floors, persons over 50 are hardly ever seen, and even those who are over 40 are few and have usually reached a position of some responsibility as jobbers or overseers.

IV.—Wages and General Condition.

16. The results of the last census show that of the total population of Bombay city about 74 per cent. are immigrants from other districts, and the immense disproportion between the sexes in Bombay, as well as the great preponderance of men of the working age, shows that these immigrants come to Bombay in search of employment, and usually without their families, and therefore for a time only. The great mass of this floating population is drawn from three districts, Ratnágiri, Poona, and Sátára, which contribute between them about 30 per cent. of the population of Bombay. The immense preponderance of Ratnágiri immigrants over those from the nearer Konkan districts of Thána and Kolába is due to the fact that Ratnágiri has a very dense population settled on a poor soil and practically no waste land, while Kolába, with a much more fertile soil, is able to provide within its own limits for a population nearly as dense as that of Ratnágiri,

nágiri, and Thána has a fair share of waste land. Density of population and lack of waste land also account for the migration from Poona and Sátára exceeding that from Násik and Ahmednagar.

17. Some of these immigrants belong to the professional classes, and a certain proportion are craftsmen, who are attracted to Bombay by high wages; but the majority belong to the agricultural classes, which supply nearly all the unskilled and semi-skilled labour that finds employment in Bombay.

18. It has already been remarked in paragraph 12 above that the mill-hands are mostly drawn from the cultivating class, especially from the Maráthas of Ratnágiri, and that their habits are extremely migratory. This important fact explains the existence of a very large class, sometimes put as high as 25,000, of persons who only get casual employment in the cotton mills. This number of course includes many half-trained men who do not earn full or regular wages, and also many wastrels, who cannot settle down to steady work, but the majority are casual workers from choice; that is to say, they come to earn a little money when field work is slack, or to take the place of a relative who goes to take his turn at home.

19. The following table fairly represents the average monthly earnings of hands employed in the different departments of a cotton mill. The wages are usually paid by the piece, and each mill has a sliding scale of prices according to the quality of the work. It is to be noted that the whole of the work is done by adult males, except winding and reeling, which is done by women, and piecing and doffing, for which half-time children are employed.

	Rs.	
Men.		
Jobbers	15 to 80	according to their department.
Scutching-room hand	9	
Carding-room hand	7 to 10	
Frame tender	10 to 13	
Ring frame hand	9 to 12	
Spinner	20	
Other mule-room hand	7 to 10	
Weaver	16	
Help	9	
Women.		
Reeler	7 to 8	
Winder	8	
Children.		
Doffer	6	
Piecer	7	

As wages are paid by the piece, and the hours of work limited by daylight, the average operative earns more in summer than in winter.

20. The above rates of wages have shown comparatively little variations for many years past; in fact the monopoly rates that ruled in the infancy of the industry have been very nearly maintained. This is due to the great and progressive expansion of the industry, which has kept up the rates of wages till they have in the eyes of the workers received the sanction of custom. Of late years, however, profits have fallen, and it cannot be long before some general reduction in wages is attempted. If such a reduction takes place, something like a general strike is not unlikely; as though the workers have no organised trades union, still they are mostly of the same caste and from the same district, and have a strong tendency to hang together; moreover, the old rates of wages

are in their eyes sanctioned by the custom of more than a generation. In fac so hopeless do some millowners seem to be of inducing the local mill-hands to accept much lower wages, that they already talk of importing cheap labour from the North West Provinces. If by this or any other means Ratnágiri labour were shut out of the Bombay mills, the result would be serious distress and aggravation of the peculiar agrarian difficulties of that district.

21. Fidelity to the customary rate of wages shows itself again in this fact, that operatives who are members of a family, and are, therefore, partly supported by others, do not (so far as I know) lower the general average of wages by accepting starvation rates. The earnings of a family in the Bombay mill industry are not therefore lower than the total of the earnings of its several members would be if they worked and lived separately.

22. Except in so far as they belong to the agricultural class and therefore share the fortunes of that class, the Bombay mill operatives are not given to running into debt. On the contrary, they do much to help their relatives by sending money home to pay rent, buy stock, redeem mortgaged lands, pay for weddings, and so on. But they have a practical grievance in the fact that many mills keep their pay two months in arrear. Hence, on first engagement or return from leave, the operative is forced into debt from which he may never be able to free himself. Considering the migratory habits of the operatives, it may be admitted to be necessary to keep some part of their pay in arrear for a moderate time; but the system of keeping the whole of it back for two months inflicts needless hardship on the workers.

23. It has been stated incidentally in paragraph 20 above that the Bombay mill-hands have no organised trades union. It should be explained that although Mr. N. M. Lokhandé, who served on the last Factory Commission, describes himself as President of the Bombay Mill-hands Association, that association has no existence as an organised body, having no roll of membership, no funds, and no rules. I understand that Mr. Lokhandé simply acts as a volunteer adviser to any mill-hand who may come to him. The bond of union among the Bombay mill-hands is a bond of caste and birth-place, and not a trade organisation.

V.—Employment of Women and Children.

24. Of 16,502 women employed in Bombay factories in the year under report, 15,969 worked in cotton mills, almost all as reelers and winders. These processes are for the most part carried on with hand machines, which are not connected with the engine, and therefore do not require attention from the time of starting to that of closing the mill. Hence the limitation of the hours of women's work to 11 has not tended to reduce the number of women employed.

25. Though the hours of work may by law extend to 11, this maximum, as a rule, is not reached except in the summer months. At other seasons, when the days are shorter, the working day on an average consists of 9½ hours. The reeling room seldom fills before seven o'clock, though individual hands come in earlier.

26. The 1½ hours' rest for women laid down by the Act was proposed by the Factory Commission of 1890 in accordance with a resolution of the Berlin Conference. The provision was intended to give the women an opportunity of going home and attending to their domestic duties in the course of the day. But in most Bombay mills it seems that the women's homes are too far from their work to make it convenient for them to go home in the middle of the day. The 1½ hours' rest is therefore often spent in sitting on the floor of the reeling room and gossiping, and the women, being

being paid by piece-work, are under a very strong temptation to cut short the period of enforced idleness.

27. It is, therefore, almost impossible to make sure that the one and a-half hours' rest is taken at present, as the women themselves find it irksome. They would probably prefer a shorter midday rest and an earlier stopping hour in the evening in order that they might get home before their husbands and see to household matters.

28. The conditions under which the reelers, who are the largest class of female operatives, do their work, vary considerably. In the best managed and newest mills the reeling room is often in a separate building, and is usually well lighted and ventilated. In other mills it is simply a part of the spinning room partitioned off and perhaps provided with a separate entrance. In others, again, the reelers work in lofts under the roof of the spinning room from which the vitiated air ascends and is only partially let out through openings in the ridge of the roof.

29. The new Act, which raises the limits of legal "childhood" from 7 and 12 to 9 and 14, has resulted in an apparent increase in the number of children employed from 937 in 1891 to 3,609 in 1892. That this increase is apparent rather than real appears from the fact that the total number of hands under the age of 16 was almost exactly the same in both years. It follows that the increase in the number of children in 1892 is due to the transfer of those between 12 and 14 from the adult to the half-time division. This transfer was largely made possible by the reduction of the legal hours from 9 to 7. Nine-hours shifts could not have been made to fit into the ordinary scheme of work, and the managers would probably have discharged the children and taken on full-time hands. As it is, there is reason to believe that the new restrictions on children's work have been attended with remarkably little disturbance to the industry, or hardship to the operatives.

30. Some of the larger mills provide schools which the children are expected to attend between their two spells of work, but I must admit that I have not much faith in the educational value of this system. The school is often held in a totally unsuitable place, such as a corner of the cotton godown, and the teachers let things go on in a most haphazard fashion. The children, perhaps, learn their letters, but I should doubt if they ever do more. The manager of the mill looks upon the school rather as a convenient means of keeping the children together in their off-hours, and ready to return to work as soon as the time comes, than as an educational institution.

31. It has been asserted that the school is sometimes used as a halfway house for passing children from one mill to another, and so employing them for 12 hours a day; but much inquiry has failed to establish this statement. It is possible that in a few individual cases a child's parents may make him work in two mills a day for the sake of extra wages, but I am convinced that the practice is not common.

32. A few words on the subject of children's certificates may not be out of place. It may be doubted whether it is advisable to give separate certificates to the children in addition to the record in the mill registers, as the former could easily be passed from hand to hand. As regards the working of young children without certificates it must be said that mill managers are generally careful to avoid it, though children sometimes work for a few days in the interval between the doctor's periodical examinations. Once, at a time when work was brisk and the demand for children great, I had occasion to suspect that under-age children might be employed till they were rejected by the doctor, and then succeeded by others who again were rejected, and so on. But the suspicion never became a certainty, and there is no reason to believe that such practices are at all general.

33. The enforcement of the legal hours of work and rest for children has not been attended with any special difficulty, though there has been one

prosecution, of which particulars will be given below. Here, again, the fact that a seven-hour shift fits into the scheme of work more easily than a nine-hour shift has had much to do with the smooth working of the Act.

VI.—Fencing of Machinery.

34. The fencing of the machinery in most of the Bombay mills may be said to be satisfactory, and accidents attributable to absence of fencing very seldom occur. Some few machines of old type are occasionally found to be insufficiently fenced, and in some cases the original guards when worn out are not replaced. I have found it necessary to issue orders as regards the fencing of the hoists in certain cotton presses; as regards covering in, or making steps over shafting in engine rooms, which the workmen have to step over or pass under; and as regards the boxing-in of ropes or belts running immediately over a passage-way. There does not seem to be any marked tendency on the part of the operatives to work the machinery without putting the guards on in order to save trouble.

VII.—Accidents.

35. The number of accidents reported during the year was 602, of which five were fatal. Of the latter, two were sudden deaths from natural causes, which are classed as accidents merely because they happened on factory premises. The other three occurred in connection with the replacing of belts on running pulleys at the Ookerda Khetsey Mill, the Jadhowji Raghoji Mill and the Morarji Goculdas Mill, respectively. Besides these, 73 of the above 602 accidents were reported as serious, the commonest being the loss of one or more fingers. These accidents are due not to defective fencing, but usually to carelessness on the part of the workmen in trying to pull out refuse while the machine is working. Of the total of 602 persons injured, 569 were adult males, one a woman, and 32 children (including 2 girls under 14).

36. It will be seen that the work of replacing belts on moving pullies is the only branch of mill work in which there is any special danger to life. The danger lies in the workman's clothing being caught between the pulley and the belt, and his being whirled round and dashed to the ground from a height. He stands on a ladder leaning against the shafting which revolves along with the pulley at great speed. In consequence of one of the accidents mentioned above, the following suggestions were made to the Millowners' Association with a view to reducing the risk of this operation :—

(*a.*) The workman who goes up to replace a belt should wear nothing but his loincloth (*langoti*) or tight trousers.

(*b.*) All ladders used in replacing belts should be specially made and preserved for that work, and be provided with hooks and spurs.

(*c.*) As far as possible all important pullies should be provided with belt hangers.

(*d.*) Only experienced men, such as jobbers or mukádams, should be allowed to replace the belts on quick-moving pullies.

The Association replied that these precautions were generally observed, but that they had circulated a copy of the letter to their members.

37. In spite, however, of the fact that these precautions do to a certain extent reduce the danger of the work, it cannot be said that they make it so safe as it should be. The problem has not yet been solved; apparatus for replacing belts from the ground has been tried, but proved nearly as dangerous as the more primitive system. But a few mills (for instance, the Karimbhai) have partially adopted a system which has certain points in its favour. This consists in a permanent platform built the whole length of the room about four feet below

below the shafting, and approachable by fixed ladders at intervals. This platform has the advantage of affording a firm foothold without contact with the shafting. It is, however, expensive, and is not applicable to all departments of all mills, as it would in some cases be in the way of the machinery. It is also said to be dangerous in case of a belt breaking and lapping round it, as the planks are torn up and the shaft is sometimes bent.

VIII.—Prosecutions.

38. Only one prosecution was found necessary during the year under report. On Sunday, 21st August, 1892, Mr. J. D. Framji, the then Chief Inspector, visited the Ookerda Khetsey Mill, and found that the midday rest was not given as required by law. He also ascertained by taking evidence on the spot that several children under 14 were habitually kept at work for 11 hours a day, and that the women employed in the Reeling Department were not allowed the legal rest. He accordingly laid an information against the owner of the mill for these breaches of the Act on August 27th. The case being heard on August 31st, the accused admitted the breaches of the Act, and the magistrate imposed a fine of Rs. 200.

I have, &c.

A. M. T. Jackson,
Chief Inspector of Factories.

GENERAL DEPARTMENT.

Bombay Castle, 22 June 1892.

No. 2079.—In exercise of the powers conferred by Sections 9, 13, and 18 of the Factories Act, 1881, as amended by Act XI. of 1891, the Governor in Council is pleased to make the following rules and orders in supersession of the rules contained in Notification No. 2972 of 10th September 1881 (published in the "Bombay Government Gazette" for 1881, Part I., pages 503-504), viz.: —

Short Title. 1. These rules and orders may be cited as "The Bombay Factories Rules, 1892."

Interpretation. 2. In these rules and orders:

(*a.*) words and expressions which are defined in the Indian Factories Act, 1881, as amended by Act XI. of 1891, have the same meaning as in the said Act, as so amended;

(*b.*) "the Act" means the Act aforesaid, amended as aforesaid.

Water-supply to be provided in factories. 3. Every occupier of a factory shall, on every day on which work is carried on in the factory he occupies, have available at the said factory for the use of the persons employed therein, free of cost to them, a water supply consisting of at least twice as many gallons of water as there are persons employed in the factory. Of the whole supply, at least as many gallons as there are persons employed in the factory shall be fit for potable purposes, and the remainder shall be fit for purposes of washing.

Inspector may take samples of water for analysis. 4. In order to determine whether the water supply provided in any factory under Rule 3 is fit for the purposes therein mentioned, the inspector may take, free of cost, such samples of it as he may from time to time require for analysis.

Factories to be sufficiently ventilated. 5. Every factory shall be ventilated to the satisfaction of the inspector. To prevent overcrowding, the minimum space to be provided for each person employed in any room of a factory shall

be a floor area of 36 superficial feet, and a breathing area of 500 cubic feet. No factory shall be considered ventilated unless ventilating openings are provided in the proportion of 10 square feet for each person employed in any room and the openings are such as to admit of a continued supply of fresh air: Provided that it shall be in the discretion of the inspector to waive the rule as to the measurement of the ventilating openings, when he is satisfied that the ventilation is good, and the enforcement of the exact measurement of 10 feet for each person would be an unnecessary hardship. The reasons for waiving the rule shall, however, be recorded in writing.

Prevention of inhalation of dust generated in certain factories.

6. If in a factory where cotton-pressing or any other process is carried on, by which dust is generated and caused to be inhaled by the persons employed in such factory to an injurious extent, and it appears to the inspector that such inhalation might be wholly or to a great extent prevented, he may direct the occupier of such factory to adopt measures for preventing, as far as possible, such inhalation.

Lime-washing of walls, &c.

7. All the inside walls of the rooms of every factory, and all the ceilings or tops of such rooms (whether such walls, ceilings or tops be plastered or not), and all the passages and staircases of every factory, if they have not been painted with oil or varnished once at least within seven years, shall be lime-washed by the occupier of the factory once at least within every fourteen months, to date from the period when last lime-washed; and if they have been so painted or varnished shall be washed by the said occupier with hot water and soap once at least within every fourteen months, to date from the period when last washed.

Governor in Council may allow exemptions from Rule 7.

8. Where it appears to the Governor in Council that the enforcement of the provisions of Rule 7 is not necessary for insuring the cleanliness of any class of factories or parts thereof or that the said provisions are by reason of special circumstances inapplicable to any class of factories or to parts thereof, he may, by notification to the "Bombay Government Gazette," except such class of factories or parts thereof from the said provisions.

Factories to be kept in a cleanly state.

9. Every factory shall be kept by the occupier thereof in as cleanly a state as is compatible with the nature of the work carried on therein and free from effluvia arising from any drain, privy, or other nuisance.

Urinal and latrine accommodation.

10. Every factory shall be provided by the occupier thereof with latrine and urinal accommodation for its operatives, and in such manner that the accommodation for females shall be apart and screened from the divisions for males. The divisions for females shall be marked in the vernacular in conspicuous letters "For Females only." Those for males shall be similarly marked "For Men only." Apart from the urinal accommodation latrines shall be provided with seats in the proportion of one to every fifty or fraction of fifty operatives employed.

Orders under Rule 6 or Section 12 (c) of the Act how to be given and enforced.

11. Every order passed by an inspector under Rule 6 or under Section 12 (*c*) of the Act shall be recorded by him in writing and a copy thereof signed by the inspector shall be delivered by him to the occupier of the factory to which the order relates or, in his absence from the factory, to his principal agent or manager in charge of the factory. The inspector shall state clearly in the order what is required to be done and shall specify a reasonable time within which effect shall be given to his requisition, and shall further give notice that, with the time so specified effect is not given to the said requisition, the person responsible for the neglect will be prosecuted under Section 15 of the Act.

Provisions as to inspection of factories.

12. Every factory shall be visited by an inspector at least once in every three months in which work is carried on therein: For the purpose of verifying the register kept as prescribed by Rule

Rule 19, the inspector shall examine the children employed in the factory during their working hours only; but for the purpose of satisfying himself that the said children are allowed the lawfully prescribed intervals for food and rest, he may examine the children and the said register during any such interval.

Orders under Section 4 (*c*) of the Act how to be given.

13. Every order passed by an inspector under Section 4 (*c*) of the Act shall be in writing, and a copy thereof signed by the inspector shall be delivered by him to the occupier of the factory, or, in his absence from the factory, to his principal agent or manager in charge of the factory.

Appeals against orders under Rule 6 or Section 12 (*c*) of the Act.

14. Any occupier of a factory on whom or on whose agent or manager an inspector serves an order under Rule 6 or under Section 12 (*c*) of the Act, may, within seven days after receipt of such order, appeal, if the factory is in the city of Bombay, to the collector of Bombay, and if the factory is without the city of Bombay, to the Collector of the district in which it is situated, or if the Collector is himself the inspector, to the Commissioner to whom such Collector is subordinate. No second appeal shall lie from an order passed on appeal, but the Governor in Council may review any order made by an inspector under Rule 6 or Section 12 (*c*) of the Act or any order passed by any authority on appeal from any such order, and may pass any order thereon which he may think proper.

Forms of appeals.

15. Every appeal preferred under Rule 14 shall be made in writing in the form of a memorandum of appeal briefly setting forth the reasons on which such appeal is based and bearing a Court-fee stamp in accordance with Article 11, Schedule 2 of the Court-fees Act.

Hearing of appeals.

16. Every such appeal shall be heard at as early a date as may be convenient, due notice of which shall be given to the appellant and to the inspector whose order is appealed against. The appellate authority shall make, or cause to be made, in such manner as he may see fit, such inquiry, if any, as shall appear to him to be necessary to enable him to decide the appeal.

Effect how to be given to decisions on appeal.

17. If an order of an inspector under Rule 6 or Section 12 (*c*) of the Act is set aside or altered in appeal, or by the Governor in Council on review, the inspector shall as early as possible deliver to the person concerned an intimation of the result of the appeal or review and such amended order if any as the decision of the appellate authority or of the Governor in Council renders necessary.

Quarterly report to be furnished by inspectors.

18. At the end of every quarter every inspector shall forward to Government a full report of the results of each inspection made by him during the quarter and of his examination of the premises and machinery and of the registers of the children employed, together with a statement of all orders passed by him under Sections 4 (*c*) and 12 (*c*) of the Act and No. 6 of these rules and of all prosecutions instituted by him or with his sanction under Section 15 of the Act and their result.

Register to be kept under Section 9 of the Act.

19. The occupier of every factory in which children are employed shall keep, in the Form A. hereto appended, a register of the children employed in such factory and of their respective employments.

Notices of accidents.

20. Notices of accidents shall be sent, as required by Section 13 of the Act, to the following authorities, viz.:

(*a*) if the accident occurs in the city of Bombay, to the inspector appointed under the Act for that city;

(*b*) if the accident occurs in the Kirkee Gunpowder Factory, to the officer commanding the Kirkee station;

(*c*) if the accident occurs elsewhere, to the district magistrate.

Such notice shall be in the Form B. hereto appended; and shall be sent:

(*d*) within one hour of the accident, if death has been caused or is known to be likely to be caused, or if a limb is broken; and

(*e*) in any other case, within twelve hours of the time when it is known that the injuries caused are such as to require the sending of a notice under Section 13 of the Act.

FORM A.

REGISTER under Section 9.

No.	Name of Child.	Father's Name.	Residence.	Date of Employment.			Nature of Employment.	Whether certificated under Section 5 or not.	Age as stated in Certificate under Section 5.	Date of Discharge.
				Month.	Day.	Year.				

FORM B.—(Under Section 13.)

FORM of Notice of Accident occurring in a Factory.

To

Sir,

I_____beg hereby to give notice, under Section 13 of the Indian Factories Act, that an accident occurred in the Factory of_____ at_____o'clock this day causing_____to the persons mentioned below :—

Name.	Caste.	Sex.	Age.	Nature of Injury.

2. The accident was caused by

3. The injured persons are under treatment by_____(or have been removed to the hospital at)

I have, &c.

Manager.

Dated

By Order of His Excellency the Right Honourable the Governor in Council.

T. D. Mackenzie,
Chief Secretary to Government.

The Indian Factories Act : Preparation and submission of Annual Reports on the working of the_____.

No. 4529.

General Department,
Bombay Castle, 8 December 1892.

MEMORANDUM from the Collector of Land Revenue, Customs, and Opium, Bombay, No. F.I.—14, dated 6th October 1892 :—

"The undersigned presents compliments to the Under Secretary to Government, General Department, and with reference to Government Resolution No. 2554, General Department, dated 25th July 1892, has the honour to forward herewith the proposals of the chief inspector, and to offer the opinion that Mr. Jackson has noticed the points of chief interest under the different heads proposed.

"As regards the quarterly report, the undersigned would notice that, should Government be pleased to approve the proposals submitted with this office letter No. B.I.—308 of 27th ultimo, for amalgamating the steam boiler and factory inspections certain changes in arrangement and detail will probably be found necessary."

RESOLUTION.—Copies of the memorandum from the Collector of Land Revenue, Customs, and Opium, Bombay, and its accompaniment should be orwarded to the Commissioner in Sind, the Divisional Commissioners and all Collectors and District Magistrates in continuation of Government Resolution No. 2554, dated 25th July 1892, for information and guidance. The suggestions contained in Mr. Jackson's memorandum are approved.

2. The work of compiling the Provincial Report should be entrusted to the Collector of Land Revenue, Customs, and Opium, Bombay, to whom the district reports and statements should be submitted by the officers concerned. The Collector of Land Revenue, Customs, and Opium, Bombay. should submit the provincial report to Government in print. As the provincial report is required by the Government of India on or before the 1st July in each year, the date for its submission to Government by the Collector of Bombay should be fixed at not later than the 1st May. The district officers should submit their reports and statements to Mr. Campbell by the end of March at latest.

3. As regards the quarterly reports referred to in paragraph 2 of Mr. Campbell's memorandum, he should be requested to state, after consulting the Commissioners of Divisions and the Commissioner in Sind, whether, in view of the fact that annual reports are now required by the Government of India, it is necessary to continue the quarterly reports.

W. L. Harvey,
Under Secretary to Government.

To

The Commissioner in Sind,
The Commissioner, N. D.,
The Commissioner, C. D.,
The Commissioner, S. D.,
All Collectors, including the Collectors and Deputy Commissioners in Sind,
The Collector of Land Revenue, Customs, and Opium, Bombay,
The Chief Inspector of Factories, Bombay,
The Superintendent, Government Central Press.

With copies of the accompaniment to the Collector's memorandum referred to in paragraph 1 of the Resolution.

ACCOMPANIMENT to Government Resolution No. 4529, dated 8th December 1892.

Suggested Form of Factory Inspection Report (Annual).

1. Summary of Results.

The number of factories in the district should be stated, and also the number of hands they employ, and whether they work all the year round or only for a part of the year. It should be stated whether all were visited quarterly, and if not, reasons should be given. Of the total inspections it should be stated how many were made by the Collector, how many by his assistants, how many by the special inspector and how many by the joint inspector. It should be stated whether the weekly holiday and the midday rest required by law are generally granted; and any case where a factory has been exempted from the rule as to Sunday work should be mentioned.

2. Sanitary Condition of Factories.

It should be stated in general terms whether the rules regarding water-supply, ventilation and cleanliness are obeyed, and whether latrines and urinals are provided as required by Rule 10. Particulars should be given of orders which may have been necessary to issue on these subjects.

3. General Health of the Operatives.

Under this head information might be collected on such points as the percentage of absentees and the causes of their absence, the average age of the workers, and the number of years that they continue to work.

4. Wages and General Condition.

Information would be useful on such points as (*a*) family earnings, (*b*) indebtedness, (*c*) cost of living, (*d*) whether the operatives live by factory work alone, or as agriculturists for a part of the year, &c., &c.

5. Employment of Women and Children.

The number of women and of children employed should be stated and also their average hours of work and whether any difficulty is found in enforcing the law for their protection. The number of orders issued under Section 4 of the Act should be given and also the number of certificates granted by Certifying Surgeons.

6. Fencing of Machinery.

It should be stated generally whether the machinery is provided with guards fenced, and whether these are or are not kept on while the machines are working. Particulars of orders as regards fencing should be given.

7. Accidents.

The number of accidents, distinguishing those that were fatal from others, should be given. It should if possible be stated how far they were due to defect in the machinery, and how far to the negligence of the workmen. In the former case it should be stated what steps have been taken by the inspector to remedy the defects.

8. Prosecutions.

Details of all prosecutions should be given.

A. M. T. Jackson,
Chief Inspector of Factories, Bombay.

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	BOMBAY:			I.H.P.							
	Cotton Mills:										
1	The Alexandra Mill - - -	Cotton spinning and weaving.	Steam engine -	700	965	150	1,115	34	14	48	1,163
2	The Alliance Cotton Manufacturing Company.	- ditto - -	- ditto - -	940	1,013	253	1,266	-	-	-	1,266
3	The Anglo Indian Spinning and Manufacturing Company, Limited.	Cotton spinning -	- ditto - -	1,000	597	391	988	221	17	238	1,226
4	The Bombay Cotton Manufacturing Company, Limited.	- ditto - -	- ditto - -	600	385	223	608	10	-	10	618
5	The Bombay National Manufacturing Company, Limited.	- ditto - -	- ditto - -	700	284	127	411	-	-	-	411
6	The Bombay United Spinning and Weaving Company, Limited.	Cotton spinning and weaving.	- ditto - -	1,000	650	228	878	352	7	359	1,237
7	The Britannia Mills - - -	Cotton spinning	- ditto - -	1,800	620	383	1,003	-	-	-	1,003
8	The China Mills - - -	- ditto - -	- ditto - -	700	395	263	658	-	-	-	658
9	The City of Bombay Manufacturing Company, Limited.	- ditto - -	- ditto - -	750	650	295	945	25	9	34	979
10	The Colába Land and Mills Company, Limited.	Cotton spinning and weaving.	- ditto - -	700	745	118	863	26	-	26	889
11	The Connaught Mills Company, Limited.	Cotton spinning	- ditto - -	725	659	365	1,024	91	42	133	1,157
12	The Currimbhoy Mills Company, Limited.	- ditto - -	- ditto - -	1,000	475	260	735	14	-	14	749
13	The David Mills Company, Limited.	- ditto - -	- ditto - -	750	605	289	894	36	5	41	935
14	The Dinshaw Petit Mills - -	Cotton spinning and weaving.	- ditto - -	1,300	1,917	420	2,337	109	15	124	2,461
15	The Dhun Mills, Limited -	Cotton spinning	- ditto - -	400	275	130	405	42	2	44	449
16	The Empress Spinning and Weaving Company, Limited.	- ditto - -	- ditto - -	740	514	315	829	22	20	42	871
17	The E. D. Sassoon Mills - -	Cotton spinning and weaving.	- ditto - -	1,160	1,294	551	1,845	26	2	28	1,873
18	The Framji Petit Spinning and Manufacturing Company, Limited.	Cotton spinning	- ditto - -	950	805	365	1,170	47	34	81	1,251
19	The Hindustan Spinning and Weaving Company, Limited.	Cotton spinning and weaving.	- ditto - -	1,000	1,136	229	1,365	12	2	14	1,379
20	Ditto - Branch - -										
21	The Hong Kong Mills - -	- ditto - -	- ditto - -	900	808	113	921	-	-	-	921
22	The Howard and Bullough Mills Company, Limited.	Cotton spinning	- ditto - -	950	736	528	1,264	63	42	105	1,369
23	The Imperial Cotton Mills Company, Limited.	- ditto - -	- ditto - -	750	531	332	863	22	12	34	897
24	The Indian Manufacturing Company.	Cotton spinning and weaving.	- ditto - -	1,100	989	202	1,191	-	-	-	1,191
25	The Indo-China Manufacturing Company.	Cotton spinning	- ditto - -	730	348	185	533	8	3	11	544
26	The Jadhowji Raghoji Manufacturing Company.	- ditto - -	- ditto - -	700	481	193	674	31	4	35	709
27	The Jam Manufacturing Company, Limited.	Cotton spinning and weaving.	- ditto - -	350	481	72	553	10	4	14	567
28	The Jamshed Manufacturing Company, Limited.	Cotton spinning	- ditto - -	900	475	223	698	73	26	99	797
29	The James Greaves Mills Company, Limited.	- ditto - -	- ditto - -	800	542	308	850	33	22	55	905
30	The Jehangir Wadia Mills -	- ditto - -	- ditto - -	300	186	76	262	6	4	10	272

Report on the Working of the Factories Act.

Whether the Factory is worked mainly (1) by Shifts or (2) by Midday Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By Midday stoppages.	General holiday on Sundays, excepting the holidays intervening.	–	–	4	4	4	3	–	–	7	
- ditto - -	- ditto - -	–	1	9	10	3	2	–	–	5	
- ditto - -	- ditto - -	–	1	12	13	2	2	–	–	4	
- ditto - -	- ditto - -	–	2	11	13	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	3	3	–	–	6	
- ditto - -	- ditto - -	–	1	12	13	3	3	–	–	6	
- ditto - -	- ditto - -	–	2	32	34	1	3	–	–	4	
- ditto - -	- ditto - -	–	2	6	8	3	3	–	–	6	
- ditto - -	- ditto - -	–	1	9	10	3	3	–	–	6	
- ditto - -	- ditto - -	–	4	3	7	2	3	–	–	5	
- ditto - -	- ditto - -	–	–	1	1	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	7	7	1	3	–	–	4	
- ditto - -	- ditto - -	–	–	11	11	2	3	–	–	5	
- ditto - -	- ditto - -	–	–	8	8	2	3	–	–	5	
- ditto - -	- ditto - -	–	–	7	7	2	3	–	–	5	
- ditto - -	- ditto - -	–	1	6	7	4	2	–	–	6	
- ditto - -	- ditto - -	–	1	11	12	3	3	–	–	6	
- ditto - -	- ditto - -	–	1	2	3	4	2	–	–	6	
- ditto - -	- ditto - -	–	1	7	8	4	4	–	–	8	
						3	4	–	–	7	
- ditto - -	- ditto - -	–	–	12	12	2	5	–	–	7	
- ditto - -	- ditto - -	–	–	5	5	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	4	4	3	3	–	–	6	
- ditto - -	- ditto - -	–	–	2	2	3	4	–	–	7	
- ditto - -	- ditto - -	–	–	7	7	3	3	–	–	6	
- ditto - -	- ditto - -	1	–	7	8	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	1	1	3	3	–	–	6	
- ditto - -	- ditto - -	–	–	–	–	2	3	–	–	5	
- ditto - -	- ditto - -	–	2	4	6	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	2	2	–	–	4	

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	BOMBAY—*continued.*										
	Cotton Mills—*continued.*			I.H.P.							
31	The Jiwraj Balloo Spinning and Weaving Company, Limited.	Cotton spinning and weaving.	Steam Engine	1,100	972	169	1,141	82	27	109	1,250
32	The Jubilee Manufacturing Company, Limited.	Cotton spinning	- ditto - -	800	547	296	843	62	5	67	910
33	The Kaiser-i-Hind Spinning and Weaving Company, Limited.	Cotton spinning and weaving.	- ditto - -	700	820	133	953	29	17	46	999
34	The Khatao Makanji Spinning and Weaving Company, Limited.	Cotton spinning and hosiery.	- ditto - -	850	883	234	1,117	12	-	12	1,129
35	The Lakhmidas Khimji Spinning and Weaving Company, Limited.	Cotton spinning	- ditto - -	900	588	435	1,023	82	15	97	1,120
36	The Leopold Spinning and Manufacturing Company, Limited.	- ditto - -	- ditto - -	500	293	111	404	16	12	28	432
37	The Lord Reay Manufacturing Company, Limited.	- ditto - -	- ditto - -	540	353	237	590	13	19	32	622
38	The Mahalaxmi Spinning and Weaving Company, Limited.	- ditto - -	- ditto - -	800	376	196	572	25	6	31	603
39	The Mazagaon Spinning and Manufacturing Company, Limited.	Cotton spinning and Weaving.	- ditto - -	850	1,036	216	1,252	67	8	75	1,327
40	The Mahomedan Mill - -	Cotton spinning	- ditto - -	700	173	130	303	3	-	3	306
41	The Manockji Petit Manufacturing Company, Limited.	Cotton spinning and weaving.	- ditto - -	2,000	3,265	656	3,921	341	61	402	4,323
42	The Motilal Pitty Spinning Mill.	Cotton spinning	- ditto - -	500	334	170	504	26	6	32	536
43	The Morarji Goculdas Manufacturing Company, Limited.	Cotton spinning and weaving.	- ditto - -	1,000	1,203	232	1,435	46	-	46	1,481
44	The National Spinning and Weaving Company of India.	Cotton spinning	- ditto - -	500	438	158	596	41	5	46	642
45	The New Empress Spinning and Weaving Company, Limited.	- ditto - -	- ditto - -	1 050	709	524	1,233	103	43	146	1,379
46	The New Great Eastern Spinning and Weaving Company, Limited.	Cotton spinning and weaving.	- ditto - -	1,500	1,104	211	1,315	92	20	112	1,427
47	The Ookerda Khetsi Spinning Mill.	Cotton spinning	- ditto - -	410	454	106	560	21	8	29	589
48	The Oriental Spinning and Weaving Company, Limited, Tárdeo.	Cotton spinning and weaving.	- ditto - -	1,500	1,699	357	2,056	75	14	89	2,145
49	The Oriental Spinning and Weaving Company, Limited, Colába.	- ditto - -	- ditto - -	900	714	159	873	16	7	23	896
50	The Pirm Mahomed Manufacturing Company.	Cotton spinning	- ditto - -	900	500	308	808	-	-	-	808
51	The Presidency Mill Company -	Cotton spinning and weaving.	- ditto - -	1,000	755	175	930	-	-	-	930
52	The Queen Spinning and Weaving Company, Limited.	Cotton spinning	- ditto - -	1,000	382	238	620	58	3	61	681
53	The Ripon Manufacturing Company.	- ditto - -	- ditto - -	680	518	285	803	55	9	64	867
54	The Sassoon Spinning and Weaving.	- ditto - -	- ditto - -	1,500	1,708	313	2,021	49	15	64	2,085
55	The Satya-Narayan Mill - -	- ditto - -	- ditto - -	200	199	80	279	-	-	-	279
56	The Sundardas Spinning and Weaving Company, Limited.	Cotton spinning and weaving.	- ditto - -	800	689	299	988	60	15	75	1,063
57	The Standard - - - -	- ditto - -	- ditto - -	500	337	226	563	-	2	2	565

Report on the Working of the Factories Act.

Whether the Factory is worked mainly (1) by Shifts or (2) by Midday Stoppages, or (3) otherwise.	Whether the General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By Midday stoppages.	General holiday on Sundays, excepting the holidays intervening.	1	–	16	17	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	8	8	3	3	–	–	6	
- ditto - -	- ditto - -	–	1	8	9	3	3	–	–	6	
- ditto - -	- ditto - -	–	1	10	11	5	3	–	–	8	
- ditto - -	- ditto - -	–	–	12	12	1	3	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	2	3	–	–	5	
- ditto - -	- ditto - -	–	–	2	2	1	3	–	–	4	
- ditto - -	- ditto - -	–	1	8	9	3	3	–	–	6	
- ditto - -	- ditto - -	–	–	5	5	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	6	6	2	3	–	–	5	
- ditto - -	- ditto - -	–	–	12	12	3	2	–	–	5	
- ditto - -	- ditto - -	–	1	1	2	3	2	–	–	5	
- ditto - -	- ditto - -	1	1	–	2	4	4	–	–	8	
- ditto - -	- ditto - -	–	2	5	7	2	3	–	–	5	
- ditto - -	- ditto - -	–	–	7	7	3	2	–	–	5	
- ditto - -	- ditto - -	–	1	23	24	4	4	–	–	8	
- ditto - -	- ditto - -	1	–	4	5	4	3	–	–	7	
- ditto - -	- ditto - -	–	–	12	12	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	5	5	2	2	–	–	4	
- ditto - -	- ditto - -	–	3	7	10	2	3	–	–	5	
- ditto - -	- ditto - -	–	2	8	10	2	2	–	–	4	
- ditto - -	- ditto - -	–	–	8	8	1	3	–	–	4	
- ditto - -	- ditto - -	–	4	5	9	2	4	–	–	6	
- ditto - -	- ditto - -	–	4	23	27	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	7	7	1	3	–	–	4	
- ditto - -	- ditto - -	–	1	2	3	2	3	–	–	5	
—	—	–	1	7	8	3	3	–	–	6	

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	BOMBAY—*continued.*										
	Cotton Mills—*continued.*			I.H.P.							
58	The Star of India	Cotton spinning and weaving.	Steam engine	1,800	643	352	995	15	4	19	1,014
59	The Sun Mills, Limited	Cotton spinning	ditto	400	243	147	390	6	–	6	396
60	The Union Spinning and Weaving Mills Company, Limited.	Cotton spinning and weaving.	ditto	1,200	540	383	923	12	3	15	938
61	The Union Mills	ditto	ditto	1,000	509	205	714	94	46	140	854
62	The Victoria Manufacturing Company, Limited.	Cotton spinning	ditto	400	349	168	517	66	23	89	606
63	The Wadia Mills, Limited	ditto	ditto	400	228	130	358	40	1	41	399
64	The Western India Spinning and Manufacturing Company, Limited.	Cotton spinning and weaving.	ditto	1,300	430	343	2,473	9	–	9	2,482
				–	45,252	15,969	61,221	2,929	680	3,609	64,830
	Woollen Mills:			N.H.P.							
1	The Bombay Woollen Mill	Wool spinning and weaving.	Steam engine	60	190	10	200	–	–	–	200
				I.H.P.							
2	The Sorab Woollen and Cotton Mill.	ditto	ditto	100	175	59	234	–	–	–	234
	Flour Mills:										
1	The Bombay Flour Mill	Corn milling	ditto	545	427	14	441	5	–	5	446
				N.H.P.							
2	The Victoria Roller Flour Mill	ditto	ditto	40	45	–	45	–	–	–	45
3	The Wallace Flour Mill	ditto	ditto	60	137	15	152	–	–	–	152
	Cotton Cleaning and Ginning Factory:										
1	The Khurshed Manufacturing Company.	Cotton carding and ginning.	ditto	40	50	40	90	–	–	–	90
	Cotton Presses:										
1	The Akbar Manufacturing and Press Company, Limited.	Cotton pressing	ditto	25	18	–	18	–	–	–	18
2	The Bombay Cotton Press Company, Limited.	ditto	ditto	45	16	1	17	–	–	–	17
3	The Chunda Rámji Cotton Press	ditto	ditto	50	11	–	11	–	–	–	11
4	The Kolába Press Company, Limited.	ditto	ditto	60	13	–	13	–	–	–	13
5	The Fort Press Company, Limited.	ditto	ditto	72	65	15	80	–	–	–	80
6	The Gokuldas Kallianji Cotton Press.	ditto	ditto	60	55	10	65	–	–	–	65
7	The Lezet Cotton Press	ditto	ditto	100	9	–	9	–	–	–	9
8	The New Prince of Wales Company, Limited.	ditto	ditto	16	33	–	33	–	–	–	33
9	The Sassoon Pressing Company	ditto	ditto	80	19	–	19	–	–	–	19
10	The Scott Press Company, Limited.	ditto	ditto	80	18	1	19	–	–	–	19
	Iron Works and Foundries:										
1	The Byculla Iron Works	Iron foundry	ditto	50	800	–	800	–	–	–	800
2	The Byculla Iron Works Branch	ditto	ditto	20	400	–	400	–	–	–	400
3	The Carnac Iron Works	ditto	ditto	10	70	–	70	–	–	–	70
4	The Defence Iron Works	ditto	ditto	20	300	–	300	–	–	–	300
5	The Geo. Gahagan Iron Works	ditto	ditto	20	242	–	242	–	–	–	242
6	The Napier Iron Foundry	ditto	ditto	10	78	–	78	–	–	–	78

Report on the Working of the Factories Act—*continued*.

Whether the Factory is worked mainly (1) by Shifts or (2) by Midday Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
—	—	1	–	15	16	2	3	–	–	5	
—	—	–	–	–	–	3	2	–	–	5	
—	—	–	4	6	10	2	2	–	–	4	
—	—	–	3	8	11	1	3	–	–	4	
—	—	–	–	8	8	4	2	–	–	6	
—	—	–	–	4	4	1	3	–	–	4	
—	—	–	1	3	4	2	3	–	–	5	
		5	51	455	511	171	178	–	–	349	
By Midday stoppages.	General holiday on Sundays, excepting the holidays intervening.	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	2	–	–	5	
- ditto -	- ditto - -	–	–	–	–	2	2	–	–	4	
- ditto -	- ditto - -	–	–	2	2	2	3	–	–	5	
- ditto -	- ditto - -	–	–	–	–	3	3	–	–	6	
- ditto -	- ditto - -	–	–	–	–	2	2	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	2	–	–	5	
- ditto -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	1	1	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	2	2	–	–	4	
- ditto -	- ditto - -	–	–	1	1	2	3	–	–	5	
- ditto -	- ditto - -	–	1	2	3	3	1	–	–	4	
- ditto -	- ditto - -	–	–	2	2	3	2	–	–	5	
- ditto -	- ditto - -	–	–	2	2	4	1	–	–	5	
- ditto -	- ditto - -	–	–	6	6	3	1	–	–	4	
- ditto -	- ditto - -	–	–	–	–	2	2	–	–	4	

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	BOMBAY—*continued.*										
	Iron Works and Foundries—*continued.*			I.H.P.							
7	The Ripon Iron Works and Manufacturing Company, Limited.	Iron foundry -	Steam engine	16	150	–	150	–	–	–	150
8	The Sorabji Shapurji Iron Works.	- ditto - -	- ditto - -	20	198	–	198	–	–	–	198
	Printing Presses:										
1	The Advocate of India Press -	Printing - -	- ditto - -	7	188	–	188	–	–	–	188
2	The Bombay Educational Society's Press.	- ditto - -	- ditto - -	12	41	–	41	13	–	13	54
3	The Bombay Gazette Steam Press.	- ditto - -	- ditto - -	12	225	–	225	25	–	25	250
4	The English Mail Press - -	- ditto - -	- ditto - -	8	145	–	145	59	–	59	204
5	The Government Central Press	- ditto - -	- ditto - -	10	700	–	700	–	–	–	700
6	The Postal Printing Press -	- ditto - -	- ditto - -	8	90	–	90	3	–	3	93
7	The Times of India Printing Press.	- ditto - -	- ditto - -	10	651	–	651	–	–	–	651
	Silk Mill:										
1	The Sassoon and Alliance Silk Company, Limited.	Silk spinning and weaving.	- ditto - -	500	668	177	845	15	17	32	877
	Oil Mills:										
1	The Perroo Mahamed Oil Mill -	Oil pressing -	- ditto - -	21	62	2	64	–	–	–	64
2	The Nassarvanji Petit Mill -	- ditto - -	- ditto - -	150	75	–	75	–	–	–	75
	Saw Mill:			N.H.P.							
1	The Byculla Saw Mill and Timber Works.	Timber works -	Steam engine	35	68	2	70	–	–	–	70
	Gas Work:										
1	The Bombay Gas Company, Limited.	Gas manufacturing.	- ditto - -	15	120	2	122	–	–	–	122
	Dye Works:										
1	The Bombay Dyeing and Manufacturing Company.	Dyeing - -	- ditto - -	100	350	54	604	29	1	30	634
2	The Childesdale Dye Works -	- ditto - -	- ditto - -	200	273	94	467	–	–	–	467
	Dockyards:										
1	The British Indian Steam Navigation Company.	Dockyard - -	- ditto - -	18	350	–	350	–	–	–	350
2	The Government Dockyard -	- ditto - -	- ditto - -	110	872	–	872	–	–	–	872
3	The Patent Slip Dockyard -	- ditto - -	- ditto - -	25	20	–	20	–	–	–	20
4	The P. and O. Company's Dockyard.	- ditto - -	- ditto - -	135	912	–	912	–	–	–	912
	Workshops:										
1	The Bombay, Baroda, and Central Railway Workshops.	Workshop - -	- ditto - -	220	1,894	–	1,894	–	–	–	1,894
2	The Bombay Municipality -	- ditto - -	- ditto - -	90	152	1	153	2	–	2	155
3	The Bombay Port Trust - -	- ditto - -	- ditto - -	20	425	2	427	–	–	–	427
4	The Bombay Tramway Company	- ditto - -	- ditto - -	10	50	–	50	1	–	1	51
5	The Bombay Steam Navigation Company.	- ditto - -	- ditto - -	20	145	–	145	–	–	–	145
6	The G.I.P. Railway Workshops	- ditto - -	- ditto - -	140	5,321	31	5,352	–	–	–	5,352

Report of the Working of the Factories Act—*continued.*

Whether the Factory is worked mainly (1) by shifts or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (c) or (4) under Section 5 B (2) (d) of the Act or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By mid-day stoppage.	General holidays on Sundays excepting the holidays intervening.	–	–	–	–	3	1	–	–	4	
- ditto - -	- ditto - -	–	–	5	5	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	3	–	–	–	3	
- ditto - -	- ditto - -	–	–	–	–	4	–	–	–	4	
- ditto - -	- ditto - -	–	1	7	8	5	2	–	–	7	
- ditto - -	- ditto - -	–	–	–	–	2	2	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	–	–	3	2	–	–	5	
Eight four shifts	Factory is exempted under Section 5 B.	–	–	–	–	4	–	–	–	4	
By mid-day stoppages.	General holiday on Sunday excepting the holiday intervening.	–	–	–	–	3	1	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto - -	- ditto - -	–	–	3	3	4	1	–	–	5	
- ditto - -	- ditto - -	–	6	5	11	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	3	2	–	–	5	
- ditto - -	- ditto - -	–	2	3	5	2	2	–	–	4	
- ditto - -	- ditto - -	–	2	10	12	5	–	–	–	5	
- ditto - -	- ditto - -	–	1	1	2	4	1	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	7	7	3	1	–	–	4	

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	BOMBAY—*continued.*										
	Hosiery:			N.H.P.							
1	The Dádar Hosiery - -	Hosiery Manufacturing.	Steam engine -	8	44	–	44	–	–	–	44
2	The Damji Hosiery - -	- ditto - -	- ditto - -	8	91	3	94	–	–	–	94
3	The Lukmanji Sullemanji Hosiery.	- ditto - -	- ditto - -	6	103	–	103	–	–	–	103
	The Gun Carriage Factory:										
1	The Government Gun Carriage Factory.	Manufacture of Gun Carriage.	Steam engine -	25	600	–	600	–	–	–	600
	The Arsenal:										
1	The Government Arsenal -	Manufacture of Ordnance.	- ditto - -	35	205	–	205	–	–	–	205
	The Mint:										
1	The Mint - - - - -	Coinage - -	- ditto - -	131	364	–	364	–	–	–	364
	Art Furniture:										
1	The East Indian Art Manufacturing Company.	Cabinet work -	- ditto - -	12	105	–	105	–	–	–	105
			TOTAL - - -	–	64,380	16,502	80,882	3,081	698	3,779	84,661
	AHMEDABAD:			I.H.P.							
1	The Gujarát Ginning and Manufacturing Company, outside Kalupur Gate.	Spinning and Weaving.	Steam power -	1,125	877	64	941	23	6	29	970
2	The Gujarát Spinning and Weaving Company, outside Kalupur Gate.	- ditto - -	- ditto - -	410	684	34	718	32	10	42	760
3	The Ahmedabad Spinning and Weaving Company, Sháhpur.	- ditto - -	- ditto - -	H.P. 190	1,236	167	1,403	101	30	131	1,534
4	The Maneklál Harilal Spinning and Weaving Company, Saraspur.	- ditto - -	- ditto - -	450	446	70	516	38	20	58	574
5	The Bechardas Spinning and Weaving Company, Raikhud.	- ditto - and Ginning.	- ditto - -	500	440	64	504	47	4	51	555
6	The Ahmedabad Manufacturing and Calico Printing Company, Sapta Rushi.	- ditto - -	- ditto - -	I.H.P. 750	619	94	713	35	12	47	760
7	The Ambica Spinning and Weaving Company, outside Raipur Gate.	- ditto - -	- ditto - -	450	360	60	420	16	–	16	436
8	The Ahmedabad Ginning and Manufacturing Company, Saraspur Road.	- ditto - -	- ditto - -	1,200	1,497	202	1,699	57	15	72	1,771
9	The Motilal Hirabhai Spinning and Weaving and Manufacturing Company.	Spinning - -	- ditto - -	600	443	106	549	90	38	128	677
10	B. B. & C. I. Railway Oil Mill -	Oil, castor and linseed.	The Factory does not come under the category of the word "Factory," and hence the								
11	Chotálal Káshináth Ginning Factory, Garospur.	Ginning - -	Steam power -	I.H.P. 18	13	31	44	–	–	–	44
12	The Ahmedabad Sarangpur Ginning Factory, Sarangpur.	- ditto - -	- ditto - -	100	50	50	100	–	–	–	100
	VIRAMGÁM:										
13	The Viramgám Spinning and Manufacturing Company, Limited, Viramgám.	Cotton Spinning and Manufacturing.	- ditto - -	450	502	45	547	90	14	104	651
			TOTAL - - -	–	7,167	987	8,154	529	149	678	8,832

Report on the Working of the Factories Act—*continued*.

Whether the Factory is worked mainly (1) by Shifts or (2) by Midday Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By mid-day stoppage.	General holiday on Sundays excepting the holiday intervening.	–	–	–	–	2	2	–	–	4	ABSTRACT (DISTRICT TOTALS). Total Number of Factories : Cotton Mills - - 64 Woollen Mills - - 2 Flour Mills - - 3 Cotton Cleaning Factories - - 1 Cotton Presses - - 10 Iron Works or Foundries - - 8 Printing Presses, &c. 7 Silk Mill - - - 1 Oil Mills - - - 2 Saw Mill - - - 1 Gas Works - - - 1 Dye Works - - 2 Dockyard - - 4 Work Shop - - 6 Hosiery - - - 3 Gun Carriage - - 1 Arsenal - - - 1 Mint - - - - 1 Art Furniture - - 1 Total - - - 119 Number of Factories inspected once during year :— Three times - - 3 More than three times - - 116 Total - - - 119
- ditto - -	- ditto - -	–	–	–	–	1	2	–	–	3	
- ditto - -	- ditto - -	–	–	–	–	1	2	–	–	3	
- ditto - -	- ditto - -	–	1	11	12	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	1	1	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	2	2	4	–	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	4	–	–	–	4	
—	—	4	56	475	535	343	245	–	–	588	

J. M. Campbell,
Collector of Land Revenue and Customs.

By stoppages at mid-day.	Generally on Sundays.	1	–	5	6	4	–	–	1	5	ABSTRACT (DISTRICT TOTALS). Total Number of Factories :— Cotton Mills - - 12 Oil Mill - - - 1 Total - - - 13 Number of Factories inspected once during year :— Twice - - - 3 More than three times - - - 10 Total - - - 13
- ditto - -	- ditto - -	–	2	5	7	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	6	6	4	1	–	–	5	
- ditto - -	- ditto - -	–	–	4	4	4	1	–	–	5	
- ditto - -	- ditto - -	–	–	1	1	4	5	–	–	9	
- ditto - -	- ditto - -	–	–	5	5	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	4	4	4	2	–	–	6	
- ditto - -	- ditto - -	–	–	4	4	4	1	–	–	5	
- ditto - -	- ditto - -	–	–	4	4	4	2	–	–	6	
information is not furnished.		–	–	–	–	–	–	–	–	2	
Stoppage at mid-day.	Generally on Sunday.	–	–	–	–	2	–	–	–	2	
- ditto - -	- ditto - -	–	–	–	–	2	–	–	–	2	
Mid-daystoppage of half hour, children in shifts.	- ditto - -	–	–	5	5	3	1	–	2	6	
—	—	1	2	43	46	45	17	–	3	65	

C. E. Frost,
Collector.

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	BROACH DISTRICT.			H.P.							
1	The Mofussil Cotton Manufacturing Company.	Cotton Spinning and Weaving.	Steam engine -	500	587	96	683	28	–	28	711
2	The Albert Edward Mills and Company, Limited - -	These two are closed on account of financial difficulties.					–	–	–	–	–
3	The Alfred Manufacturing Company, Limited - -										
			Total - - -	500	587	96	683	28	–	28	711
	KAIRA DISTRICT.			H.P.							
1	Manor Mill at Nadiad - -	Cotton Spinning Mill.	Steam boiler -	6	384	56	440	4*	–	4*	444
			Total - - -	6	384	56	440	4	–	4	444
	SURAT DISTRICT.			H.P.							
1	The Gulam Baba Spinning and Weaving Company, Limited, at Delhi Gate.	Manufacturing Yarn.	Steam - -	60	357	155	512	75	50	125	637
2	The Jafar Ali Begum Vady, Surat.	Cotton Spinning and Weaving.	ditto - -	420	405	165	570	61	47½	108½	678½
3	The Beg Mahmad Mill, outside the Sahara Gate.	Spinning - -	ditto - -	210	150	65	215	10	–	10	225
			Total - - -	—	912	385	1,297	146	97½	243½	1,540½
	THÁNA DISTRICT.										
1	The Swadeshi Mills Company, Limited, situated at Kurla in the Thána District.	Cotton Spinning and Weaving.	Machinery driven by steam power.	The two engines develop, on an average 2,000 I.H.P. per day.	1,907	469	2,376	162	68	230	2,606
2	Kurla Mills situated at Kurla in the Thána District.	- ditto - -	- ditto - -	I.H.P. 800	969	266	1,235	30	6	36	1,271
			Total - - -	—	2,876	735	3,611	192	74	266	3,877

* Really 4, but only two work at a time.

Report on the Working of the Factories Act—*continued.*

Whether the Factory is worked mainly (1) by Shifts or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By mid-day stoppages.	General holidays observed on Sundays, except when Native holidays come three days previous or after Sundays.	1	–	1	2	2	1	1	—	4	Total Number of Factories :— Cotton Mills - - 1 Total - - - 1 Number of factories inspected more than three times - - - 1
—	—	–	–	–	–	–	—	—	—	–	
—	—	1	–	1	2	2	1	1	—	4	

W. T. Morison,
Collector and District Magistrate.

By mid-day stoppages.	On varying week days.	–	–	3	3	3	1	—	—	4	Total Number of Factories :— Cotton Mills - - 1 Total - - - 1 Number of factories inspected more than three times - - - 1
—		–	–	3	3	3	1	—	—	4	

H. R. Cooke,
Collector, Kaira.

By mid-day stoppages.	The mill is generally closed on Sunday, except when a holiday intervenes.	–	–	2	2	3	1	—	—	4	Total Number of Factories :— Cotton Mills - - 3 Total - - - 3 Number of factories inspected more than three times - - - 3
		–	–	13	13	4	1	—	—	5	
		–	–	1	1	3	1	—	1	5	
—	—	–	–	16	16	10	3	—	1	14	

F. S. P. Lely,
Collector and District Magistrate, Surat.

The engines are entirely stopped from 12 noon to 12.30 noon. Women are allowed to attend the mills not earlier than 6.15 a.m., and leave it not later than 6.45 p.m. Their intervals for food and rest are from 9.30 a.m. to 10 a.m., and from 12 noon to 1 p.m. Under-age children work in four sets.	Preference is given to Sundays except when a holiday occurs. On such a case the holiday is substituted for the Sunday.	–	–	4	4	4	1	—	—	5	Total Number of Factories :— Cotton Mills - - 2 Total - - 2 Number of factories inspected more than three times - - - 2
Mid-day stoppages.	Varying week days.	–	–	11	11	4	1	—	—	5	
—	—	–	–	15	15	8	2	—	—	1	

W. F. Sinclair,
District Magistrate and Inspector of Factories, Thána.

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total, Columns 3 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	KHÁNDESH DISTRICT.			I.H.P.							
	Táluka Dhulia :										
1	Volcort's United Press Company, Dhulia.	Cotton Press -	Steam power and Press working by Hydraulic power.	17	33	–	33	–	–	–	33
2	The India Cotton Company, Limited, Dhulia.	- ditto - -	- ditto - -	72	12	–	12	–	–	–	12
3	Penkar's Ginning Factory, Dhulia.	Ginning - -	Steam - -	30	10	9	19	–	–	–	19
4	The Manmád Manufacturing Company, Limited, Dhulia.	- ditto - -	ditto - -	35	131	92	223	–	–	–	223
5	Ditto - ditto - -	Pressing - -	ditto - -	20	40	–	40	–	–	–	40
6	The Dhulia Manufacturing Company, Limited, Deopur.	Ginning - -	ditto - -	19·5	60	70	130	–	–	–	130
7	The Holkar's Factory at Songir	- ditto - -	ditto - -	20	51	30	81	–	–	–	81
8	The New Mofussil Company, Dhulia.	Pressing - -	ditto - -	20	50	–	50	–	–	–	50
9	Ditto - ditto - -	Ginning - -	ditto - -	30	43	40	83	–	–	–	83
10	Curshetji Jivaji Factory, Dhulia	- ditto - -	ditto - -	22	35	49	84	–	–	–	84
	Amalner :										
11	Mahomedali Isabhoy's Factory at Amalner.	- ditto - -	ditto - -	56 lbs.	19	31	50	–	–	–	50
	Erandol :										
12	Mahomedali Isabhoy's Factory at Erand.	- ditto - -	ditto - -	20	28	36	64	–	–	–	64
13	Mahomedali Isabhoy's Factory at Dharangaon.	- ditto - -	ditto - -	30	49	50	99	–	–	–	99
14	Mahomedali Isabhoy's Factory at Páldhi.	- ditto - -	ditto - -	20	16	23	39	–	–	–	39
15	Gopalji Ramji's Factory, Dharangaon.	- ditto - -	ditto - -	20	13	10	23	–	–	–	23
16	Chaturbhuj Durgada's Factory, Erandol.	- ditto - -	ditto - -	20	35	37	72	–	–	–	72
	Amalner Táluka :										
17	Pitambar Parbhuda's Factory at Párola.	- ditto - -	ditto - -	20	70	104	174	–	–	–	174
18	Gulabdas Harida's Factory at Párola.	- ditto - -	ditto - -	20	91	87	178	–	–	–	178
	Táluka Páchora :										
19	The New Páchora Manufacturing Company, Limited.	- ditto - -	ditto - -	53	50	94	144	–	–	–	144
20	Ditto - ditto - -	Pressing - -	ditto - -	40	25	8	33	–	–	–	33
21	The Nathu Lalji's Páchora Ginning Factory.	Ginning - -	ditto - -	23	50	63	113	–	–	–	113
22	Ditto - ditto - -	Pressing - -	ditto - -	23	25	8	33	–	–	–	33
23	The Manmád Manufacturing Company, Limited, Kajgaon.	Ginning - -	ditto - -	25	42	56	98	–	–	–	98
24	The Indian Cotton Company, Kajgaon.	Pressing - -	ditto - -	65	50	8	58	–	–	–	58
	Páchora :										
25	The Kajgaon Ginning Factory -	Ginning - -	ditto - -	20	44	47	91	–	–	–	91
26	The Bhadgaon Ginning Factor y	- ditto - -	ditto - -	20	35	35	70	9	6	15	85

Report on the Working of the Factories Act—*continued*.

Whether the Factory is worked mainly (1) by Shifts or (2) by Midday Stoppages or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days or (3) whether Factory exempted under Section 5 B (2) (*c*) or (4) under Section 5 B (2) (*d*) of the Act or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
The factory works when there are orders from cotton dealers.	Does not work continually, but works at intervals.	–	–	–	–	3	–	–	–	3	The factory works only when there are calls from the cotton dealers.
- ditto - -	- ditto - -	–	–	–	–	3	–	–	–	3	During the slack season general holiday is given every Tuesday, it being Bazár day.
By shifts -	Tuesday (Bazár day).	–	–	–	–	2	–	–	–	2	
- ditto - -	- ditto - -	–	–	–	–	2	–	–	–	2	
- ditto - -	- ditto - -	–	–	–	–	2	–	–	–	2	
- ditto - -	- ditto - -	–	–	–	–	2	–	–	–	2	
By mid-day stoppages.	Thursday - -	–	–	–	–	1	1	–	–	2	
By shifts -	Tuesday - -	–	–	–	–	2	–	–	–	2	The factory is closed if worked regularly on Tuesday during the week, if not, it is closed on the days when there is no work.
- ditto - -	- ditto - -	–	–	–	–	2	–	–	–	2	As No. 8.
- ditto - -	On varying week days.	–	–	–	–	3	–	–	–	3	
By mid-day stoppages.	Monday (Bazár day).	–	–	–	–	1	–	–	–	1	
- ditto - -	Sunday (Bazár day).	–	–	–	–	1	–	–	–	1	
- ditto - -	- ditto - -	–	–	–	–	1	–	–	–	1	
- ditto - -	- ditto - -	–	–	1	1	1	–	–	–	1	
- ditto - -	- ditto - -	–	–	–	–	1	–	–	–	1	
- ditto - -	- ditto - -	–	–	–	–	1	–	–	–	1	
By shifts -	- ditto - -	–	–	–	–	2	–	–	–	2	
- ditto - -	- ditto - -	1	–	–	1	3	–	–	–	3	
By shifts and sets.	Sunday - -	–	1	–	1	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	3	2	–	–	5	
- ditto - -	- ditto - -	–	–	–	–	2	1	–	–	3	
- ditto - -	- ditto - -	–	–	–	–	3	1	–	–	4	
- ditto - -	- ditto - -	–	–	–	–	2	1	–	–	3	
By stoppages -	Friday (Bazár day).	–	–	–	–	3	1	–	–	4	

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	KHÁNDESH DISTRICT—*contd.*										
	Táluka Jámner:			I.H.P.							
27	The Jámner Cotton Ginning Factory.	Ginning - -	Steam - -	29	54	56	110	-	-	-	110
28	The Neri Cotton Ginning Factory.	- ditto - -	ditto - -	20	51	101	152	-	-	-	152
	Táluka Chálisgaon:										
29	Chálisgaon Cotton Ginning Factory.	- ditto - -	ditto - -	30	52	60	112	-	-	-	112
30	The Manmád Manufacturing Company, Limited, Chálisgaon	- ditto - -	ditto - -	18	32	46	78	-	-	-	78
31	Govindji Viramji's Ginning Factory, Chálisgaon.	- ditto - -	ditto - -	22	40	56	96	8	8	16	112
32	Govindji Viramji's Factory, Chálisgaon.	Pressing - -	ditto - -	16	52	10	62	3	-	2	64
33	The Manmád Manufacturing Company, Limited, Chálisgaon.	- ditto - -	ditto - -	18	36	3	39	-	-	-	39
	Sindkheda:										
34	Akbarali Sumsudin's Factory, Sindkheda.	Ginning - -	ditto - -	20	64	40	104	6	-	6	110
35	Bapu Kikádá's Factory, Sindkheda.	- ditto - -	ditto - -	20	32	29	61	7	-	7	68
36	Isabhoy Ibrahim's Factory, Chimthana.	- ditto - -	ditto - -	12	20	34	63	-	-	-	63
	Táluka Shirpur:										
37	Ahmedalli and Abdullabhai and Isabji's Factory at Shirpur.	- ditto - -	ditto - -	30	50	50	100	-	-	-	100
38	The Zorastrian Factory, Shirpur.	- ditto - -	ditto - -	150	80	100	180	-	-	-	180
	Táluka Chopda:			A.H.P.							
39	Manek Ratiram's Factory, Chopda.	- ditto - -	ditto - -	48	70	28	98	-	-	-	98
40	Chonu Shiwela's Factory, Chopda.	- ditto - -	ditto - -	20	50	20	70	-	-	-	70
41	Vithaldas Ramda's Factory. Chopda.	- ditto - -	ditto - -	30	76	39	115	-	-	-	115
42	Gokuldas Dosabhoy's Factory, Adáwad.	- ditto - -	ditto - -	20	56	44	100	-	-	-	100
	Táluka Jalgaon:										
43	Khándesh Spinning and Weaving Mills, Jalgaon.	Spinning and Weaving.	ditto - -	-	650	125	775	-	-	-	775
44	New East India Press Factory, Jalgaon.	Pressing Factory	ditto - -	H.P. 64	60	7	67	-	-	-	67
45	New Berar Company, Jalgaon -	- ditto - -	ditto - -	20	60	8	68	-	-	-	68
46	New Mofussil Press Company, Jalgaon.	- ditto - -	ditto - -	20	60	8	68	-	-	-	68
47	Volkart United Press Company, Jalgaon.	- ditto - -	ditto - -	22	60	7	67	-	-	-	67
48	English Press Company, Jalgaon	- ditto - -	ditto - -	40	58	7	65	-	-	-	65
49	New Prince of Wales Company (Press), Jalgaon.	- ditto - -	ditto - -	40	63	8	71	-	-	-	71
50	Shikh Adam Esafbhoy's Ginning Factory, Jalgaon.	Ginning - -	ditto - -	36	30	65	95	-	-	-	95
51	kauji Meghji's Ginning Factory, Jalgaon.	- ditto - -	ditto - -	29	34	70	104	-	-	-	104
52	Gokuldás Meghji's Ginning Factory, Jalgaon.	- ditto - -	ditto - -	30	50	110	160	-	-	-	160

Report on the Working of the Factories Act—*continued.*

Whether the Factory is worked mainly (1) by Shifts or (2) by Midday Stoppages or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days or (3) whether Factory exempted under Section 5 B (2) (c) or (4) under Section 5 B (2) (d) of the Act or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	
By stoppages -	Thursday (Bazár day).	-	-	-	-	4	-	-	-	4	
By shifts and sets.	Tuesday (Bazár day).	-	-	-	-	2	1	-	-	3	
ditto - -	Saturday - -	-	-	-	-	3	-	-	-	3	
ditto - -	ditto - -	-	-	-	-	3	-	-	-	3	
By stoppages -	Thursday - -	-	-	-	-	3	-	-	-	3	
ditto - -	Saturday - -	-	-	-	-	3	-	-	-	3	
By shifts and sets.	ditto - -	-	-	-	-	3	-	-	-	3	
By shifts -	Monday - -	-	-	-	-	-	1	-	1	2	
ditto - -	ditto - -	-	-	-	-	-	1	-	1	2	
ditto - -	Sunday - -	-	1	-	1	-	1	-	1	2	
ditto - -	Monday - -	-	-	-	-	-	1	-	1	2	
ditto - -	ditto - -	1	-	-	1	-	1	-	1	2	
ditto - -	Sunday - -	-	-	-	-	-	1	-	1	2	
ditto - -	ditto - -	1	-	-	1	-	1	-	1	2	
ditto - -	ditto - -	-	-	-	-	-	-	-	1	1	
ditto - -	Monday - -	-	-	-	-	-	1	-	1	2	
Mid-day stoppages.	Saturday - -	-	2	17	19	1	1	4	4	10	
ditto - -	ditto - -	-	-	-	-	2	-	-	-	2	
ditto - -	ditto - -	-	-	-	-	-	-	-	1	1	
By shifts -	ditto - -	-	-	-	-	-	-	-	1	1	
ditto - -	ditto - -	-	-	-	-	-	-	-	-	-	
ditto - -	ditto - -	-	-	-	-	1	-	-	-	1	
ditto - -	ditto - -	-	-	-	-	1	-	-	-	1	
ditto - -	ditto - -	-	-	-	-	1	-	-	-	1	
ditto - -	ditto - -	-	-	-	-	1	-	-	-	1	
ditto - -	ditto - -	-	-	-	-	1	-	-	-	1	

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total, Columns. 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	KHÁNDESH DISTRICT—*contd.* Táluka Jalgaon—*continued.*			I.H.P.							
53	Shaik Adam Esafbhoy's Press Factory, Jalgaon.	Pressing - -	Steam - -	26	60	6	66	–	–	–	66
54	Ismalji Ibrahim Ginning Factory	Ginning - -	Information not procurable owing to the closing of the factory and the absence of the manager.								
55	Shaik Ibrahim Ginning Factory	- ditto - -	- - ditto - - -		ditto - - -			ditto - - -			ditto.
	Táluka Bhusával :										
56	Bodwad Ginning Factory -	- ditto - -	Steam - -	24	18	22	40	–	–	–	40
57	Empress Factory, Bodwad -	- ditto - -	ditto - -	–	18	18	36	–	–	–	36
58	Nowroji Factory, Warangaon -	- ditto - -	ditto - -	15	26	21	47	–	–	–	47
59	Shaik Ahamed, Bhusával - -	- ditto - -	ditto - -	20	30	50	80	–	–	–	80
60	Jamti Steam Cotton Company -	- ditto - -	ditto - -	18	46	34	80	–	–	–	80
61	Indian Cotton Press, Kandari -	Pressing - -	ditto - -	25	55	–	55	–	–	–	55
	Táluka Sávda :										
62	Ramchandra Bapuji Ginning Factory, Sávda.	Ginning - -	ditto - -	12	34	7	41	–	–	–	41
63	Supdu Deochand's Factory, Faizpur.	- ditto - -	ditto - -	16	72	21	93	7	–	7	100
64	Haji Ibrahim Factory, Faizpur	- ditto - -	ditto - -	16	38	32	70	10	–	10	80
65	Haji Ibrahim Factory, Gata -	- ditto - -	ditto - -	16	37	21	58	7	–	7	65
66	Gokuldas Dosabhai's Factory, Yával.	- ditto - -	ditto - -	30	26	56	82	13	–	13	95
67	Ráver Ginning Factory - -	- ditto - -	ditto - -	20	60	53	113	–	–	–	113
68	Dayaldas Runjilal's Factory, Ráver.	- ditto - -	ditto - -	22	33	58	91	–	–	–	91
	Nandurbár :										
69	Bapubhai Nawabhai and Company, Nandurbár.	- ditto - -	ditto - -	14	37	26	63	–	–	–	63
70	Badrudin Aimadalli and Company, Ravala.	- ditto - -	ditto - -	19	37	36	73	–	–	–	73
	Sháháda :										
71	Hari Maneklal and Company, Sháháda.	- ditto - -	ditto - -	19	30	45	75	–	–	–	75
72	Isabhai Abdulali and Akbarali Daudbhai, Sháháda.	- ditto - -	ditto - -	15	45	40	85	–	–	–	85
73	Nanabhai Ranchoddas and Company, Sarangkheda.	- ditto - -	ditto - -	19	31	54	85	–	–	–	85
74	Ibbramji Abdulalli and Company, Sarangkheda.	- ditto - -	ditto - -	15	22	20	42	–	–	–	42
			Total of District - - -	–	3,821	2,738	6,559	69	14	83	6,642
	NÁSIK.										
1	G. I. P. Railway Workshop, Igatpuri.	Repairing railway engines and carriages.	Horizontal stationary engine.	12 Nominal Horse Power.	419	1	420	–	–	–	420

Report on the Working of the Factories Act—*continued*.

Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) whether Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*) or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By shifts -	Saturday - -	-	-	-	-	1	-	-	-	1	
—	—	-	-	-	-	-	-	-	-	-	
—	—	-	-	-	-	-	-	-	-	-	
Mid-day stoppages.	Wednesday -	-	-	-	-	2	-	-	-	2	
- ditto - -	- ditto - -	Information not procurable.				-	-	-	-	-	
- ditto - -	Tuesday - -	-	-	-	-	1	-	-	-	1	
By shifts -	Sunday - -	-	-	-	-	2	-	-	-	2	
Mid-day stoppages.	Saturday - -	-	-	-	-	-	-	-	-	-	
Shifts - -	Sunday - -	-	-	-	-	-	-	-	-	-	
ditto - -	ditto - -	-	-	-	-	-	-	-	2	2	
ditto - -	Wednesday -	-	-	-	-	-	-	-	2	2	
ditto - -	- ditto - -	-	-	-	-	-	-	-	2	2	
ditto - -	Sunday - -	-	-	-	-	-	-	-	2	2	
Mid day stoppages.	Friday - -	-	-	-	-	1	1	3	-	5	
Shifts - -	ditto - -	-	-	-	-	1	-	-	-	1	
Mid-day stoppages.	ditto - -	-	-	-	-	1	-	-	-	1	
- ditto - -	Tuesday - -	-	-	-	-	1	-	-	1	2	
- ditto - -	Sunday - -	-	-	1	1	1	1	-	1	3	
- ditto - -	Tuesday - -	-	-	-	-	1	2	-	1	4	
- ditto - -	ditto - -	-	2	-	2	1	2	-	1	4	
- ditto - -	Sunday - -	-	-	-	-	1	2	-	1	4	
- ditto - -	ditto - -	-	-	-	-	1	2	-	1	4	
—	—	-	-	-	-	99	33	7	29	168	

ABSTRACT (DISTRICT TOTALS).

Total Number of Factories	74
Cotton Mills	1
Jute Mills, Woollen Mills, Breweries, Flour Mills, Paper Mills	Nil.
Cotton-cleaning and ginning Factories	56
Cotton Presses	17
Jute Presses, Leather Works, Iron Works or Foundries, Sugar Works, Printing Presses, &c.	Nil.
Total	74
Number of Factories inspected once during year	18
ditto, twice	22
ditto, three times	13
ditto, more than three times	13

A. Cumine,
Acting Collector and District Magistrate, Khándesh.

By stoppages, viz., from 8 a.m. to 12 noon, and from 1 p.m. to 4.30 p.m. on Monday to Friday, and on Saturday from 8 a.m. to 12.30 noon.	The workshops are closed from 12.30 o'clock on Saturday and whole day on Sunday. They are also closed on Christian holidays such as Christmas and Easter holidays and also on some of the Hindu holidays.	-	-	-	-	3	1	-	-	4	

R. B. Stewart,
District Magistrate, Násik.

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total, Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	POONA:			H. P.							
1	Gun Carriage Factory, Poona Branch, Kahun-road, Poona.	Wood-work of ordnance carriages, wagons, transport carts, ambulance, &c.	High pressure pillar engine.	12	172	–	172	–	–	–	172
2	Gunpowder Factory at Kirkee -	Making gunpowder.	Steam power -	199	186	–	186	–	–	–	186
3	Small Arms Ammunition, Factory, Kirkee.	Manufacture of war stores.	High-pressure horizontal engines.	1 20 h.p.; 1 12 h.p.; 1 9 h.p.	1,271	–	1,271	197	–	197	1,468
4	Reay Paper Mill, Mundhva -	Paper making -	Steam engine -	H. P. nominal 150	112	53	165	13	7	20	185
5	Locomotive Workshops, Lanowli	Repairing railway stock.	Two horizontal engines.	H. P. 27·8	367	4	371	–	–	–	371
6	The Deccan Brewery, Dapuri, near Kirkee.	Brewing - -	Steam power -	H. P. nominal 18	256	–	256	–	–	–	256
			Total - -	—	2,364	57	2,421	210	7	217	2,638

Report on the Working of the Factories Act—*continued.*

Whether the Factory is worked mainly, (1) by Shifts, or (2) by Midday Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Stoppage of half hour from 1.30 to 2 p.m., except on Saturday when factory closes at 2.30 p.m.	General holidays given, and factory closed on Sundays, except when urgent repairs usually are necessary.	-	-	6	6	4	-	-	-	4	ABSTRACT (DISTRICT TOTALS). Total Number of Factories:— Gunpowder - - - 1 Gun carriage - - - 1 Cotton mills - - - 1 Railway workshop - - 1 Paper mills - - - 1 Breweries - - - 1 6 Number of factories inspected more than three times - - - -
The factory works 8 hours a day except the incorporating mills which work from 6.30 a.m. to 4.30 p.m. The men are allowed half an hour for breakfast at 9 a.m.	The factory is entirely closed on Sundays, and on Saturdays from 12.30 p.m., throughout the year, and besides this on holidays authorised by Government.	-	-	-	-	4	-	-	-	4	
The factory is not worked by shifts, it opens for work at 8.30 a.m., and closes at 4.30 p.m., except on Saturdays when it is closed at 2.30 p.m., with half an hour's stoppage for adults and one hour's for children from 1 to 1.30 p.m., and from 4 to 4.30 p.m., daily for food and rest. The boys are dismissed at 4 p.m., but are not allowed to leave the factory till 4.30 p.m.	Sundays and the chief public holidays are always recognised as general holidays.	-	-	5	5	4	-	-	-	4	
Portion by stoppages; 1½ hours midday rest for females and 1 hour for males, and portion by shifts.	As a rule, Sunday observed as a holiday. If, however, the factory is closed for a native holiday on any week day, it is worked instead on Sunday preceding or following.	-	2	2	4	3	1	-	-	4	
From 8 o'clock to 12 o'clock, and 13 to 16-30 o'clock on week days and from 8 o'clock to 12-30 on Saturday.	General - -	-	-	-	-	4	1	-	-	5	
Worked by midday stoppages.	General holiday always on Sunday.	-	-	-	-	-	-	-	-	-	
—	—	-	2	13	15	19	2	-	-	21	

W. Porteous,
Collector and District Magistrate.

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total, Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	SHOLÁPUR:										
1	Sholápur Spinning and Weaving Company, Sholápur.	Spinning and weaving.	Steam power -	40	247	42	279	-	-	-	279
2	Martand Press at Bársi - -	Cotton press -	Hydraulic press	45	50	52	75	-	-	-	75
3	The New Prince of Wales Company.	- ditto - -	- - -	20	52	30	82	-	-	-	82
4	India Cotton Company - -	- ditto - -	- - -	63	51	25	76	-	-	-	76
5	New East India Company -	- ditto - -	- - -	80	85	40	125	-	-	-	125
6	Goculdas Kalyanji - - -	- ditto - -	- - -	50	45	20	65	-	-	-	65
7	Mohonlal Maganlal - - -	Ginning factory	Steam power -	32	30	50	80	-	-	-	80
8	Damodar Goculdas - - -	- ditto - -	- - -	22	40	30	70	-	-	-	70
			Total - -	-	600	252	852	-	-	-	852
	AHMEDNAGAR:			H. P.							
1	Ahmednagar Cotton Press -	Cotton pressing	Hydraulic and steam power.	19	44 to 45	10	54 to 55	-	-	-	54 to 55
2	The Akbar Cotton Press - -	- ditto - -	- ditto - -	35	50	16	66	-	-	-	66
3	Harvey and Sabapathy Cotton Press.	- ditto - -	- ditto - -	40	50	16	66	-	-	-	66
			Total - -	-	145	42	187	-	-	-	187
	BELGAUM:			H. P.							
-	The Falls Mills, Gokák, Belgaum District.	Cotton spinning	Water power -	750	520	347	867	189	150	339	1,206
	BIJÁPUR.			H. P.							
1	The New Prince of Wales Company, Limited, at Bijápur.	Cotton pressing	Steam power -	12	20	30	50	5	-	5	55
2	Messrs. Harvey and Sabapathy Press and Company, Limited, Bijápur.	- ditto - -	- ditto - -	42	11	6	17	5	-	5	22
3	West's Patent Press Company's Cotton Press at Bágalkot -	Particulars regarding these two factories have not yet been received from the Assistant Collector, who is appointed by Government an inspector of the factories in Bágalkot. His report will, on receipt, be separately forwarded.									
4	Binny's Cotton Press at Bágalkot - - - - - -										
5	West's Patent Press Company, Limited, Bágalkot.	Cotton pressing	Hydraulic pressure, obtained from steam engine.	15	25	50	75	-	-	-	75
6	Binny's Cotton Press, Bágalkot	- ditto - -	Engine and boiler.	4	20	70	90	-	-	-	90
			Total - -	-	76	156	232	10	-	10	242

Report on the Working of the Factories Act—*continued.*

Whether the Factory is worked mainly, (1) by Shifts, or (2) by Midday Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*). or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By midday stoppages.	If native festival falls on a week day, the mill is closed on that day; if not, on Sundays.	-	1	1	2	1	1	-	-	2	ABSTRACT (DISTRICT TOTALS). Total Number of Factories:— Cotton mills - - - 1 Cotton presses - - 5 Ginning factories - - 2 8
By shifts -	A general holiday on varying week days is given.	-	-	-	-	-	-	-	1	1	
- ditto - -	- ditto - -	-	-	-	-	-	-	-	1	1	
- ditto - -	- ditto - -	-	-	-	-	-	-	-	1	1	
- ditto - -	- ditto - -	-	-	-	-	-	-	-	1	1	Number of factories inspected once during the year - - - - 4
- ditto - -	- ditto - -	-	-	-	-	1	-	-	1	2	
- ditto - -	- ditto - -	-	-	-	-	1	-	-	1	2	Twice - ditto - - 4
- ditto - -	- ditto - -	-	-	-	-	1	-	-	1	2	
- -	- - -	-	1	1	2	4	1	-	7	12	

C. B. Winchester,
Acting Collector.

The labourers other than those who come in contact with machinery do the work by contract and make their own arrangements for leisure for food and rest. With respect to the others midday rest of one hour is allowed.	Sunday is general holiday, except when there is urgent works, in which case a holiday is given in the week following.	1	1	-	2	2	-	-	-	2	
- ditto - -	- ditto - -	-	-	1	1						
- ditto - -	- ditto - -	-	1	-	1						
- - -	- - -	1	2	1	4	2	-	-	-	2	

E. J. Ebden,
Collector of Ahmednagar.

Midday stoppages.	Every Sunday is given.	-	-	19	19	4	1	4	-	9	

F. L. Charles,
Collector, Belgaum District.

Neither by shifts nor by stoppages; intervals for rest given by turn.	The factory is not worked on Sunday, but if there be work on that day it is closed on some other day in the week.	-	-	-	-	3	-	-	-	3	ABSTRACT (DISTRICT TOTALS). Cotton Presses - - 6 Total - 6
- ditto - -	- ditto - -	-	-	-	-	3	-	-	-	3	
By both shifts and stoppages. In the latter case, one and a-half hour's stoppage in eleven hours.	Factory is closed on Sundays. Not exempted from work on Sundays.	-	-	-	-	2	1	-	-	3	
Stoppages daily from 12 to 1.30 p.m.	Holiday is given on every Sunday throughout the year.	None	None	None	None	2	1	-	-	3	
- - -	- - -	-	-	-	-	10	2	-	-	12	

J. Monteath,
Collector.

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total, Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	DHÁRWÁR.										
1	Southern Maratha Railway Workshops, Hubli.	Erection and repairs of locomotive engines, construction and repairs of carriages, and wagons, and manufacture of tools, plant and furniture for the Company's purposes.	Stationary and portable steam engines.	Aggregate nominal horse-power, 150.	1,086	Nil	1,086	Nil	Nil	Nil	1,086
2	The Southern Maratha Spinning and Weaving Company, Limited, Hubli.	Cotton manufacture.	Steam - -	75 nominal horse-power.	456	234	690	31	7	38	728
			Total - - -	-	1,542	234	1,776	31	7	38	1,814
	RATNÁGIRI.			H.P.							
1	School of Industry, Ratnágiri -	Cabinet making -	Steam - -	25	130	-	130	57	-	57	187
	HYDERABAD, SIND.			H.P.							
1	Gurdasmal Gin Factory, Hyderabad, Fuleli Quarter.	Cleaning cotton -	Steam -	10	17	40	57	12	7	19	76
2	Vishindas - ditto - -	- ditto - -	ditto - -	24	13	15	28	15	14	29	57
3	Thakurdas - ditto Kutcha West.	- ditto - -	ditto - -	12 8 (2 Engines.)	30	30	60	18	9	27	87
4	Hotchand Gin and Flour Factory, Hyderabad, Kutcha West.	Cleaning cotton, and grinding corn.	ditto - -	(2 Engines.)	7	25	32	12	9	21	53
5	Pokandass Chimandas & Co., Gin Factory, Tando Kalsar, Táluka, Hyderabad.	Cleaning cotton -	ditto - -	12	23	25	48	8	6	14	62
6	Kalumal Gin Factory, Allahyar, Mani, Táluka, Tando, Allahyar.	- ditto - -	ditto - -	20	52	15	67	10	5	15	82
7	Santmal Gin Factory, Mirpurkhas.	- ditto - -	ditto - -	12	18	26	44	15	13	28	72
8	Wasaumal Gin Factory, Matiari, Táluka, Hála.	- ditto - -	ditto - -	10	30	40	70	15	15	30	100
9	Khemchand Gin Factory, Ghotana, Táluka, Hála.	- ditto - -	ditto - -	12	25	20	45	15	-	15	60
10	Ditto - ditto - -	- ditto - -	ditto - -	12	20	20	40	15	-	15	55
			Total - -	-	235	256	491	135	78	213	704

Report on the Working of the Factories Act—*continued*.

Whether the Factory is worked mainly, (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Mid-day stoppages, *viz.*, from 11 a.m. to 12 noon.	General holiday on Sundays.	–	4	2	6	3	1	–	–	4	
Mid-day stoppages except in the case of children who are employed on shift system.	The mill is closed every Sunday.	1	1	1	3	3	2	–	–	5	
—	—	1	5	3	9	6	3	–	–	9	

J. Fairlie Muir,
District Magistrate, Dhárwár.

Mid-day stoppages.	(1) yes, (2) to (5) no.	None	None	None	None	4	1	–	–	5	

W. W. Drew,
Collector.

By mid-day stoppages.	Given holiday on Sunday.	–	–	–	–	1	–	–	–	1	ABSTRACT (DISTRICT TOTALS).
- ditto -	- ditto - -	–	–	–	–	1	–	–	–	1	Total Number of Factories. 10
- ditto -	Varying 4 days in a month.	–	–	–	–	1	–	–	–	1	Flour Mills - - - 1
- ditto -	- ditto - -	–	–	–	–	1	–	–	–	1	Cotton-cleaning Factories. 10
- ditto -	- ditto - -	–	–	–	–	–	–	–	–	–	Total - - - 10
- ditto -	Sunday - -	–	–	–	–	1	–	–	–	1	Number of Factories inspected once during the year - - - 8
- ditto -	Friday - -	–	–	–	–	–	–	–	–	–	
- ditto -	Sunday - -	–	–	–	–	1	–	–	–	1	
- ditto -	- ditto - -	–	–	–	–	1	–	–	–	1	
- ditto -	- ditto - -	–	–	–	–	1	–	–	–	1	
—	—	–	–	–	–	8	–	–	–	8	

A. F. Woodburn,
District Magistrate.

108930

FORM I.—STATEMENT to accompany Annual District

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	KARÁCHI, SIND.			H. P. N.							
1	N. W. Railway - - -	Railway workshops for repairs of Locomotive Engines, Carriages, Wagons, &c.	4 steam engines	Averaging 83.	1,444	Nil	1,444	Nil	Nil	Nil	1,444
				H. P.							
2	MacLeod Road Iron Works and Metal Mart at MacLeod Road.	Engineering workshops.	Horizontal high pressure Engine with Locomotive boiler.	23	250	Nil	250	Nil	Nil	Nil	250
3	Karáchi Iron Works, MacLeod Road.	Iron Manufacturing.	Steam - -	8	200	Nil	200	Nil	Nil	Nil	200
			Total - - -	-	1,894	-	1,894	-	-	-	1,844
	SHIKÁRPUR SIND.										
1	Railway Workshops, Adamshah, Sukkur.	General repairs of Railway plant.	Fine fixed and semi-portable engines.		1,629	Nil	1,629	None under 15 years of age are allowed on the Railway premises.	Nil	-	1,629

Note.—Columns 2 to 14 of this statement will be compiled from half-yearly Return I submitted by occupiers prescribed in Home Department Notification No. 428, dated 25th March 1892. Columns 15 to 23 will be compiled from the Registers kept in the Offices of Magistrates and Special Inspectors.

The mean of the figures shown in the two half-yearly statements to be entered in these columns.

In the case of factories worked "otherwise," full details to be given, *e.g.* (as to column 13), whether the factory is exempted under Section 5 A (2), or the reason for which shifts or stoppages were not enforced; and (as to column 14) the reasons for which the provisions of the law were not complied with, and the steps taken to enforce compliance.

No. 4,605, dated Bombay Castle, 23 December 1893.

From *W. L. Harvey*, Esq., I.C.S., Under Secretary to the Government of Bombay, General Department, to the Secretary to the Government of India, Home Department.

WITH reference to Mr. Under Secretary Luson's letter No. 1,401, dated 17th November 1893, I am directed to forward, herewith, for the information of the Government of India, a copy of the Resolution No. 4,604, of to-day's date, passed by this Government on the Report on the Working of the Indian Factories Act in the Bombay Presidency for the year 1892.

Report on the Working of the Factories Act—*continued.*

Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week Days, or (3) whether Factory exempted under Section 5 B (2) (*c*)' or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Stoppages from 11 to 12.	General holiday is given on Sunday, and half-holiday on Saturday.	*1	1	7	9	4	–	–	–	4	* Since the submission of the report, No. 1,975, dated 26th April 1893, it has been ascertained that one case was fatal, and hence it is now shown in this column.
Stoppages from 12 to 12·30 at noon.	- ditto - -	1	1	–	1	4	–	–	–	4	ABSTRACT (DISTRICT TOTALS). Iron Works or Foundries - - - - 3 Total - - - 3
Stoppages from 12 to 1 p.m.	- ditto - -	–	–	–	–	4	–	–	–	4	Number of Factories inspected more than three times - - - 3
—	—	1	2	7	10	12	–	–	–	12	

R. I. Crawford,
Collector of Karáchi.

Morning shift, 4½ hours; Afternoon shift, 4 hours; Saturdays shift, 5½ hours, only 1 shift.	General holidays on Sundays and other Native and Christian holidays.	–	–	20	21	–	3	* 4	–	7	* In addition to the usual quarterly inspecting, Surgeon Captain S. E. Prace, I.M.S., Civil Surgeon of Sukkur, occasionally inspected the workshops, but of this no record is kept.

Accidents to be shown as "Serious" where the injury caused results in or is equivalent to the loss of an eye or limb, or is so severe as to incapacitate the labourer from work for 21 days or more.
The number of factories of each class to be separately shown.

R. Giles,
Collector of Shikárpur.

INDIAN FACTORIES ACT: Provincial Report on the working of the —— for the year 1892 (No. 4,604), General Department, Bombay Castle, 23 December 1893.

LETTER from the Collector of Land Revenue, Customs, and Opium, Bombay, No. F.I.—75, dated 27 June 1893—Submitting, in accordance with Government Resolution No. 4,529, dated 8 December 1892, the Provincial Report on the working of the Indian Factories Act for 1892.

LETTER from the Government of India, Home Department, No. 1401, dated 17 November 1893.

RESOLUTION.—The Provincial Report on the working of the Indian Factories Act for the year 1892, submitted by the Collector of Land Revenue, Customs, and Opium, Bombay, in accordance with the orders noted in the margin, is the first report of its kind. The delay in the submission of the report is mainly due to this cause; but Government trust that the experience now gained will enable the Collector to submit the next report by the prescribed date.

Government Resolution No. 2,554, dated 25th July 1892.
Government Resolution No. 4,529, dated 8th December 1892.

2. During the year under report there were 253 factories at work in the Bombay Presidency, of which 119 are situated in the Town and Island of Bombay. Of the total number of factories (253) 14 cotton gin factories and

cotton presses in Khándesh and eight cotton presses in Bombay are reported to have employed less than 50 hands, but it is stated that the figures returned in the cases of these factories and presses represent only the permanent staff, much of the work being done by temporary hands employed by contractors, whose number varies from day to day. One hundred and fifty-seven factories worked all the year round, while 96, comprising the cotton gin factories and cotton presses, were seasonal, beginning work in November and continuing to run till March or June, according to the state of the market and the yield of the cotton harvest. Nine factories remained entirely uninspected, but it is explained that these were seasonable factories which the Collector could not arrange to visit during the working months.

3. The office of Inspector of Factories, Bombay Presidency, was held for short periods, first by Mr. H. Monie, who during his tenure of office enquired into the effect of the amended Indian Factories Act on the employment of women in the cotton mills of Ahmedabad, and after Mr. Monie by Mr. N. A. Moos, who reverted to his permanent appointment in the Elphinstone College on 31st October 1892; and it has since then been vacant. Mr. Campbell's scheme for the amalgamation of the Departments of Boiler and Factory Inspection and the abolition of the separate appointment of Inspector of Factories, Bombay Presidency, has been submitted to the Government of India. The question which Mr. Campbell has separately submitted as to the necessity of making temporary arrangements for the discharge of the duties of this office pending the decision of the Government of India on the scheme, is under the consideration of Government. Appointments of Medical Joint Inspectors of Factories have not yet been made, as the rules required to be laid down for their guidance are still under consideration.

4. It is satisfactory to note that the provisions of the Act regarding the weekly holiday and the midday rest are duly observed, and that no particular difficulty has been felt in enforcing them. Only one factory in the Presidency (viz., the Bombay Gas Works) has been exempted under Clause (*c*) of Section 5 B (2) from the prohibition against Sunday work. Only two prosecutions were instituted during the year.

Mr. Jackson has, in paragraph 32 of his report, discussed the advisability of granting separate certificates to children in addition to the record in the mill registers. This point is under the separate consideration of Government.

5. The provisions of the rules under the Act on the subject of ventilation have been the subject of a correspondence between the Collector of Bombay and the Mill Owners' Association. It is not quite clear why Rule 5 should, as remarked by the Collector of Thána, have been found unworkable, as it is at the discretion of the Inspector to waive the provision as to the measurement of the ventilating openings, when he is satisfied that the ventilation is good, and the enforcement of the exact measurement of ten feet for each person would be an unnecessary hardship. Mr. Campbell thinks that, except in a few of the older factories, no very considerable changes would be required to meet the wishes of Government. The Governor in Council will, however, await the result of the correspondence with the Mill Owners' Association.

6. The health of the factory hands is reported to be not inferior to that of other persons of the same rank in life. The facts stated in paragraphs 11—17 of the report seem generally to support the conclusion that the work which the mill operatives in this Presidency are required to perform is not such as to affect their health as a class.

7. It is observed that the reports as regards indebtedness of mill hands are very vague, but that the only cause of debt specially connected with factory work is the Bombay system of keeping wages two months in arrears, which forces some hands to run into debt on first engagement or return from leave. Mr. Campbell considers that a more prompt payment of wages is both practicable and necessary. The Indian Factory Commission of 1890 was of opinion that the monthly wages of the operatives should be paid on the 15th of the month following that for which they were due; but this was not considered to be a proper subject for legislation, and it was thought that the observance of a general rule by mill owners to the above effect would suffice.

8. In paragraph 24 of the report Mr. Campbell brings to notice that the meaning of the section which requires that women shall have one and a half hour's

hours' rest is sometimes misunderstood ; that in Broach, for instance, the women are reported to get only half-an-hour's rest in the middle of the day. Mr. Campbell remarks that it might perhaps be more convenient to the female operatives themselves to curtail the midday rest and let them return home earlier in the evening. A similar suggestion was made in Mr. Campbell's letter No. F.I.—24, dated 1st November 1892, and has already been brought to the notice of the Government of India.

9. The Chief Inspector of Factories, Bombay, has made certain suggestions to the Mill Owners' Association as to the best way of preventing accidents in replacing the belts on moving pulleys, and Government are glad to learn that some of these suggestions have been adopted by that body.

10. A copy of this Resolution should be forwarded to the Government of India with reference to their letter No. 1401, dated 17th ultimo.

W. L. Harvey.
Under Secretary to Government.

To—
The Commissioner in Sind,
The Commissioner, N. D.,
The Commissioner, C. D.,
The Commissioner, S. D.,
All Collectors, including the Collectors and Deputy Commissioners in Sind,
The Collector of Land Revenue, Customs, and Opium, Bombay,
The Chief Inspector of Factories, Bombay,
The Surgeon General with the Government of Bombay,
The Accountant General,
The Government of India (by letter),
The Editors' Tables.

GENERAL DEPARTMENT.—Miscellaneous (No. 388 T—G).—Darjeeling, 5 July 1893.

From *H. H. Risley*, Esq., C.I.E., Secretary to the Government of Bengal, to the Secretary to the Government of India, Home Department.

Sir,

IN compliance with the request contained in your letter No. $\frac{11 \text{ Judicial}}{863}$, dated 30th June 1892, I am directed to submit the provincial report on the working of the Indian Factories Act, XV. of 1881, as amended by Act XI. of 1891, in Bengal during the year 1892. The prescribed returns I. and II. are appended. The instructions given by the Government of India for the preparation of the inspection reports seemed to Sir Charles Elliott to be sufficient, and no supplementary orders were therefore issued by this Government.

Inspections.

2. During the year, 150 factories came under the operation of the Act, the majority being situated in the Presidency, Burdwan, and Dacca divisions. Of these, 37 are jute mills, 34 jute presses, 13 iron works, eight cotton mills, nine dockyards, five railway workshops, four sugar mills, four printing presses, three paper mills, three oil mills, three silk filatures, three arms and ammunition factories, two ice factories, two flour mills, two coach-building establishments, one woollen mill, one brewery, one pottery, one rice mill, one bone mill, one weaving mill, one stone works, one instrument factory, one mint, one clothing agency, one telegraph works, one municipal workshop, one shellac factory, one opium factory, one gas works, and three other minor concerns. Twenty-one of the above belong to Government. The ice factories, the jute presses, Messrs. Renwick and Company's workshop at Kushtia, Messrs. Mylne and Company's factory at Behia, all the sugar refineries, the Blast Furnace Department of the Bengal Iron and Steel Company, the shellac factory at Cossipore, the Kajla silk filature at Rampur-Boalia, and Messrs. Burn and Company's pottery works at Raniganj, were exempted under section 5B (2c) from the provisions of the law which prohibit Sunday labour.

3. In 72 factories work was carried on by shifts or sets, and in 72 by midday stoppages, while the rest worked otherwise. In the jute presses, which work for only five or six months in the year, the main employment of the operatives, who are paid by contract, is sorting out and cleaning the raw material and cutting off the ends; the pressing of bales is done by only a few select men. The usual hours of labour in the jute mills are from 6 a.m. to 6 p.m., but in the hot weather, when the days are longer, the working time is extended by an hour and a-half. During the course of the day the operatives are allowed intervals amounting to three hours for food and rest, during which time they leave the mill entirely. The English system of giving one hour for breakfast and dinner, with other minor breaks, is not suited to this country, as the Indian operative has to cook his food himself, and requires a period of rest after eating. This is arranged for in the mills by introducing three shifts, one at 9 a.m., another at 12 a.m., and the third at 3 p.m. Children work in two shifts. The first set work from 6 a.m. to 9 a.m., and again from 12 a.m. to 3 p.m.; and the second from 9 a.m. to 12 a.m., and again from 3 p.m. to 7 p.m. In some mills these hours differ slightly, while in a few others the boys remain nine hours on the premises, but in these the intervals allowed during the day amount to fully two hours, so that the actual employment does not exceed seven hours.

4. The total daily number of operatives employed in the several factories was 120,007, 94,985 being men, 15,774 women, 8,381 boys, and 867 girls. The 24 jute mills in the Presidency and Burdwan divisions alone employed no less than 57,596 men, women, and children.

5. With the exception of two presses in the 24-Parganas, one sugar refinery in Jessore, one jute press in Howrah, one silk filature in Midnapore, three factories in Burdwan, one rice mill in Chittagong, and 17 jute presses in Dacca, all the factories were inspected twice during the year by the authorised officials, in accordance with Rule 16 of the rules framed under the Act. In the case of the Burdwan and Midnapore factories the second inspection was made after the close of the year. A jute press in Howrah and a sugar refinery in Jessore were inspected only once, as they were both closed for a part of the year, and the same reason seems to apply to the two presses in the 24-Parganas, which were not inspected a second time. It is observed that the magistrate of the 24 Parganas made no inspections at all. His attention will be drawn to this, and it will be pointed out that under the Act the district magistrate is an *ex-officio* inspector, and although his official duties are heavy, it is essential that he should make enough inspections to keep himself conversant with the practical working of the Act. The district magistrates of Dacca and Chittagong give no explanation of the omission to make a second inspection of the factories mentioned above. Except perhaps in the case of factories only open for a portion of the year, it seems to the Lieutenant Governor that the rules requiring at least two inspections should be rigidly enforced. It is frequently the case that small factories and workshops need even closer supervision than large ones. Those having the least amount of machinery naturally make the greatest possible use of what they have, and this may entail long hours of labour and occasionally night work, conditions under which accidents are most likely to occur.

6. Although the Act has not yet been thoroughly understood, and there are still some shortcomings in its administration, the managers of mills are beginning to regard it as settled law, and to recognise their obligation to observe it. Suggestions for improvement in the guarding of machinery and in sanitary arrangements have been readily carried out, warnings have been received and acted on, and in only five cases has it been necessary to have recourse to the courts. The special inspector mentions that the larger and more important a factory is, the more thorough and systematic is the compliance with the requirements of the law. This he attributes to the fact that the largest mills employ as their managers and chief hands English and Scotch operatives who have been accustomed from boyhood to the working of the Factory Act; while in smaller establishments, where domiciled Europeans or Eurasians are employed, "the Act is regarded as a nuisance, and as applying to all other factories but their own."

7. Generally

7. Generally speaking, the condition of the factories and their management was satisfactory, there was no overcrowding, and the buildings were kept clean. All the large mills are substantial lofty buildings, well lighted and ventilated. They are periodically lime-washed inside and colour-washed outside, and disinfectants are also liberally used. The jute mills are one-storied buildings, the rooms are from 15 to 19 feet in height, the doors and windows are kept constantly open, and the ventilation is described as excellent. The special inspector mentions one exception which "calls to mind the humid atmosphere and limited space occasionally allotted to the English operative." This is a mill built on the banks of the Hooghly about 70 years ago, from the designs of a Lancashire mill, the height of each room barely exceeding 10 feet. Artificial ventilation is only occasionally adopted; and in the case of cotton mills no reference is made to the pollution of the breathing space due to the necessity of maintaining a high degree of humidity in order to keep the thread from breaking. In some cotton mills of the Central Provinces the officiating Lieutenant Governor found that the doors were shut to exclude the dry external air, and artificial moisture produced by watering the floor (humidifiers not having yet been always introduced), so that the operatives worked in a polluted and oppressed atmosphere. Possibly the natural dampness of the Bengal climate renders it unnecessary to resort to these devices; but the point will be further inquired into. The cooly lines, where provided, are generally well laid out in squares with plenty of space between, but there is room for improvement in some cases. In one or two instances the supply of fresh air was deficient, the coolies themselves being, it is said, strongly opposed to ventilation. In connection with the amendment of the Bengal Municipal Act, the Lieutenant Governor's attention was drawn to the danger to the public health arising from the crowded state of the huts used as lodging-houses by day labourers and mill operatives in the suburban area lying round about Calcutta and Howrah. A section has therefore been inserted in the amending Bill now before the Council empowering the municipal commissioners to prevent overcrowding in such lodging-houses, and to enforce provision for a proper water supply, for latrine accommodation, and for the disposal of refuse. This section as now drafted would only apply to cooly lines if a charge for accommodation were made, and it would therefore be within the power of the mill managers to exclude the jurisdiction of the municipal commissioners by housing their operatives free of charge. The point will be further considered by the Select Committee on the Bill.

Sanitary condition and sanitary arrangements in factories.

8. The water supply is generally derived from rivers, wells, and tanks, and is reported to be on the whole good. Where municipal hydrants exist use is made of them. In some of the factories the water is filtered, and the managers of the remainder, which do not get their supply from the municipal hydrants, have been recommended to introduce arrangements for filtering. The special inspector of factories has suggested the advisability of arranging for the supply of municipal water to the factories at Chitpur and Cossipore.

9. The latrines on the whole were fairly good and fairly well kept, but in many places it was found that the coolies preferred to use the fields. Where improvement was necessary, especially in the conservancy arrangements, attention was drawn to the subject. In this matter, however, the special inspector points out that the factory managers are not always to blame. Many large mills, it is stated, pay from 500 rupees to 1,200 rupees a year to the commissioners of the municipalities in which they are situated, on account of latrine tax, and do not succeed in getting their premises efficiently cleaned. Similar instances of neglect are brought to notice by the magistrates of Hooghly and the 24-Parganas, and in the former district action is said to have been taken to apply a remedy. The Commissioners of the Presidency and Burdwan divisions will be requested to warn the municipalities concerned, and instructions will be issued to local officers to see that in places where the latrine tax is in force the establishments employed by the municipalities pay special attention to the conservancy of factories.

10. The general health of the operatives was good, and no outbreaks of disease occurred during the year. On this subject Dr. Barker, civil surgeon of Serampore, writes:—

General health of the operatives.

"The general health of the labourers is fairly good, and they appear happy and contented. There are a few weakly coolies amongst the

weavers, who are mostly local men or Bengalis. The majority of the operatives are North-West people; and the proportion of women and children among them is small. These coolies find their way down to Bengal without the assistance of the mills, and apparently prefer factory to other work. The health of the women and children is as good as the health of the lower classes engaged in other employments in the towns, though perhaps not so good as those residing in the rural tracts. I do not think there is anything in the nature of the jute manufacture injurious to health; at any rate I have closely observed the people engaged in this industry for seven years, and have discovered no special disease among them. Of course I do not class accidents with diseases. The North-West coolies are, however, very dirty in their habits, and the houses they live in are as a rule very close to each other, and the sanitary arrangements of these cooly lines or bustees are bad, and the municipalities do not devote proper attention to these crowded huts. The men also have a bad habit of crowding together in small houses, which is not conducive to health. I have seen as many as five in a low apartment six feet square. These people are, however, taller and physically stronger than the Bengalis; but owing to their not being inured to this climate, and their insanitary surroundings, they suffer from malarial fevers and outbreaks of cholera, diseases within the sphere of preventive measures. The manager of the Champdany jute mills has erected very good long ranges of houses for many of his coolies with airy compartments, and these labourers enjoy better health than those who are allowed to shift for themselves."

11. In the Burdwan district the factory hands are said to have suffered less from cholera and small-pox than their neighbours. Dr. Leahy, the civil surgeon of the 24-Parganas, while reporting favourably on the health of the operatives during the year, has suggested that the question of vaccinating all employés in factories should be taken up, and this suggestion will be considered in the Sanitation Department. The special inspector has paid particular attention to the health of the children employed in factories, and believes them to be thoroughly healthy, and that the work they perform is in no way detrimental to them. The fact that 5 or 10 per cent. of them are weak, feeble in growth, and stunted for their age, cannot, in his opinion, be attributed to the work they perform in the mills, as about the same proportion of undersized and weakly children may be observed among the outside population. The arrangements made for the medical care and treatment of the operatives were satisfactory. Some of the factories have a native doctor on the premises daily, and keep a good supply of medicines. When there are any serious cases of illness or accident, they are sent to the charitable hospitals for treatment.

12. The wages paid by the factories are generally liberal, being higher than can be obtained by any other handicraft not requiring specially skilled labour. In the 24-Parganas there is said to be much competition among the lower classes to obtain work. Even in silk filatures, where the wages appear to be lowest, the operatives are reported to be sufficiently paid as compared with labourers and petty cultivators. The wages in private factories vary from Rs. 2. 8. to 40 rupees a month, according to the class of work performed, and in the Government factories from 6 rupees to 60 rupees. Men and women generally earn from 6 rupees to 8 rupees a month, and children from Rs. 2. 8. to 5 rupees. Skilled workmen ordinarily earn from 20 rupees to 40 rupees each a month, and thus, as the magistrate of Burdwan remarks, command better wages than the students trained at our higher English schools. In a great many of the factories the labourers are paid by contract, and the earnings vary from Rs. 2. 8. to 25 rupees a month. In some of the jute and cotton mills male operatives earn from 16 rupees to 20 rupees a month. A fair indication of the scale of wages paid in the factories near Calcutta is given in the table of rates supplied by the magistrate of Hooghly, a copy of which is annexed. The special inspector sums up the result of his observations on this branch of the subject by remarking that a family of four persons can earn from 30 rupees to 40 rupees a month in the jute mills, while a boy or girl of 10 or 11 years of age will draw from Rs. 3. 8. to 4 rupees a month. Nor does this entail specially hard and continuous work. "A number of men, women, and children, can at most times of the day be seen in the grounds of the large mills either asleep under trees or shady parts of the building,

Wages and general condition.

building, taking their meals, bathing or smoking, a special shed having been built in many mills for this purpose. The question might suggest itself to some few as to why so many are able to leave their work at all times of the day, when in the home mills everyone is kept under lock and key. The answer is a simple but a very striking one. There are 100 per cent. more hands employed in every jute mill in Bengal than is required to work a similar sized mill in Dundee."

On the whole it may be said that the general condition of the operatives, many of whom, especially in the neighbourhood of Calcutta, come from the North-Western Provinces, is very satisfactory, and that factory work is on the whole popular with the labouring classes. The employés in all the large mills and workshops are appreciably better off than members of the same class engaged in other employment, and than petty cultivators in rural tracts. They are not only well-treated and receive good wages, but they have continuous employment, are paid regularly, and receive medicines free of charge when sick.

Employment of operatives generally.

13. The work of the operatives is not arduous, and as the general rule in all the large factories is to engage more hands than are required, in order to provide against sickness and irregular attendance, there are always sufficient coolies present to take the place of those who desire to leave the premises. The working hours in the private factories are from sunrise to sunset, varying according to season. In some Government factories work goes on from 7 a.m. to 3 p m., and in others from 8 a.m. to 4 p.m., with intervals for rest and food, but in no case does the working day exceed nine hours. In those factories in which the shift system is not in vogue, there are stoppages of work during the day, aggregating from two to three hours. As a rule, there are three shifts in each of the large mills, one at 9 a.m., one at 12 a.m., and another at 3 p.m. The children in the jute mills work in two shifts. The first batch work from 6 to 9 a.m., and from 12 till 3 p.m.; and the second batch from 9 to 12 a.m., and from 3 to 7 p.m.

Employment of women and children.

14. In the jute mills women are generally engaged in the sewing and weaving rooms, but a few are employed in feeding the jute-softener machine and carding machine, while in the cotton mills their work generally consists of winding the yarn on frames turned by hand power. They are allowed to take their babies and little children with them when no machinery is in use. If this were not allowed, it would be a great hardship to the mothers, and would debar them from taking work in the mills, as the children could not be left alone at home. Children of the standard age are employed only on light work. In the cotton mills they are chiefly engaged in the spinning department, and remain in the factories from eight to nine hours, the same as the adults; but they rest from 15 to 20 minutes each hour, while the bobbins are filling, so that they actually work only from six to seven hours. Dr. Barker, the Joint Inspector of Factories for the Serampore sub-division of Hooghly, raises the question whether, during these intervals of rest, the children can be deemed not to be actually employed within the meaning of section 7 (3). It seems to the Lieutenant-Governor that if such intervals are shown in the notice required by section 10 (1) they would thereby be legalised for the purposes of section 10 (2). The point is one upon which an authoritative ruling is called for, as at present the law appears to be technically infringed in the mills in question; but before issuing any orders on the subject, his Honour will await an expression of the views of the Government of India, as the same question may have arisen in other provinces. Another minor breach of the law in connection with the employment of children is reported now to have nearly disappeared. Until recently most mills have been in the habit of employing a number of women to sew bags by piece-work. A room was set apart for this purpose; the women brought their children with them, and as soon as they were old enough to hold a needle they were set to sew, in order to increase their mothers earnings, thus infringing section 6 of the Act. it is now stated that bag sewing is more and more done by machinery, while the managers of mills discourage the presence of young children, in order that they may not be called to account for breaches of the law. The special inspector mentions that a far larger proportion of boys is engaged to attend to the work allotted to them than is required for the purpose in a Lancashire mill; so that each boy actually does less work than would be exacted in England. In many mills a difficulty has been found in knowing

what to do with the children out of working hours. They are forbidden by the Act to work more than seven hours, while, if they had nothing to do, their presence on the mill premises is a hindrance to work. On the other hand, they can hardly be allowed to make their way home alone; and the parents when going to work usually lock up their houses, so that the children would have nowhere to go to. In order therefore to find occupation for them, some mill-owners have opened schools, which the children attend twice a day for two hours at a time This period, added to the hour allowed for recreation, enables them to remain at the mill throughout the day. The plan is one which deserves to be generally adopted.

15. Generally speaking, the law on the subject of the employment of women and children has been duly observed. In only one or two instances has it been found necessary to reject children on account of their being under age or in a delicate state of health. In some cases inconvenience is caused by the necessity of children being certified previous to employment When the number varies from time to time, the services of certifying surgeons are constantly required, and if they are not readily available, the children are debarred from employment. In a few instances children were employed without inspection, except by the doctor employed on the premises; but it was brought to the notice of the managers that this was contrary to the law, and that children should not be employed until duly certified by the certifying surgeon. In consequence of this, some factory owners have dispensed with the services of children altogether. Notices showing that the working and resting hours of the operatives, and the working seasons, were hung up in each factory, and the prescribed registers were regularly kept. All factories other than those exempted under section 5B (2*c*) were closed on Sundays and other holidays, but in a few instances the provisions of the law were infringed.

16. The special inspector bears testimony to the good work done by medical officers as inspectors and as certifying surgeons, and notices

Work of certifying surgeons.

that their suggestions on subjects connected with sanitation have as a rule been efficiently carried out. As regards their special duties under section 5 of the Act, the information given in the reports is not very full, but on the whole there seems to have been no great demand for their services. In Hooghly the certifying surgeon rejected one or two children as being under age or in delicate health, and stopped several children from working, pending production of a certificate. In this district no one of the employé class applied for a certificate under section 5, nor have any such cases been reported from other districts. In Rajshahi five boys were rejected as being under the legal age; and in the silk filature in Midnapore and the Government workshop at Dehri certificates of the ages of the children employed were given. In other districts no action seems to have been taken under section 5 of the Act.

17. The machinery and mill gearing have been generally found sufficient.

Fencing machinery.

Nearly all the machinery in the new mills has been made in Lancashire, and the requisite shields for the protection of the dangerous parts have been sent out with the machinery. There have been some deficiencies in the fencing of the fly-wheels and engines, but prompt attention has given to the removal of the defects when pointed out.

18. The total number of accidents reported was 338, of which 171 were

Accidents.

serious. The majority were due to carelessness on the part of the injured persons. This is found to take two forms—negligence while working with running gear, in consequence of the fingers of the operative are drawn in and injured more or less seriously; and attempts to clean machinery while in action, instead of having it stopped for the purpose. For the former class of negligence no certain remedy can be devised. There are limits to the possibility of fencing, and something must be left to the common sense and care of the operative. In the latter case stricter supervision may be expected to reduce the proportion of accidents. The attention of the managers has been drawn to the matter, and it has been suggested that they should insist more on the responsibility of the sardars and overlookers in this respect.

19. The following were the most serious accidents :—

In the Jamalpur workshop a ladleman was injured by melting iron being spilt over his legs whilst assisting in carrying a ladle full of molten iron. The

accident

accident was caused by want of caution on the part of the injured man. A blacksmith, while engaged at the steam hammer in the locomotive workshop, severely injured his lower jaw by careless handling of the tools.

A workman at Saidpur got a cut 2 inches long ⅛th inch wide on his ankle by a buffer beam turning over accidentally on to his left leg while he was cleaning some paint work on it.

At Samastipur a man injured his eye by improperly handling a pair of tongs while working at the steam hammer.

On the 9th September last a cooly employed at the Bengal Iron and Steel Works was sitting inside a boiler cleaning it, when poisonous gas, generated in an adjacent furnace, passed over the boiler, and the cooly died of suffocation. The Company's assistant surgeon was in immediate attendance, and every endeavour was made to save the man's life. The case was inquired into by the police and by the sub-deputy magistrate of Raniganj. The death was purely accidental, and no blame attached to any one.

On the 6th of December last, at the same factory, a khalasi named Fakir Muhammad was sitting under a boiler cleaning the flue, when one Palakdhari, a servant of a contractor, opened a hole through which water is let out of the boiler. The boiling water rushed out and severely scalded both the men. Fakir died at the Raniganj Hospital on the 17th December, and Palakdhari died at Lodna on the 19th idem. The latter refused to go to the hospital, and was treated by the Company's doctor. The case was fully inquired into by the police, and Fakir Muhammad's dying declaration was recorded by an honorary magistrate. The accident was due to gross carelessness on the part of the sufferers.

At the Clive jute mills Dost Muhammed, who was cleaning the driving pulley of the hydraulic press, slipped accidentally and fell on the lever, which commenced to work, dragging him under the pulley, and killing him on the spot. An investigation was held in the case, which was reported as an accident.

In the Serampore sub-division only one fatal accident occurred. This was the result of the broken end of a belt striking a boy on the head, fracturing the skull and injuring the brain. The boy was treated in the Serampore Charitable Hospital, and died 10 days after the accident.

The provisions of the law about reporting accidents have, with very few exceptions, been properly observed in all the factories.

Prosecutions.

20. There were only five prosecutions during the year under section 15 (1) of the Act, resulting in four convictions for infringement of the provisions of the law as to Sunday labour. On this subject the magistrate of the 24-Parganas writes :—

> "No prosecutions were instituted against any of the occupiers of factories during the year. In a few cases where occupiers omitted to furnish the returns in spite of repeated reminders, warnings had to be sent, which were sufficient. Many complain that they are unable to submit correct returns of the holidays for any month before the beginning of that month, as prescribed in Form III. This is owing to the uncertainty of trade, which does not allow them to state definitely beforehand the number of days in which a factory may be closed. The value of this return is not apparent, while the labour entailed on the office is heavy, owing to the number of reminders necessary before all returns can be obtained, and then only some time after the due date. The calls for this return apparently cause a good deal of irritation, and I think it might be discontinued with advantage. It would be quite sufficient to demand a quarterly return of the days in which the working of a factory was stopped, such return to be submitted at the close of the quarter. It is obviously much easier to report on what days a factory has actually been stopped than to state beforehand on what days it is going to be stopped, as there is clearly an element of uncertainty in the latter case which does not exist in the former."

The abolition of this return was recommended to the Government of India in this Government letter No. 1T.-G., dated 27th April 1893.

I have, &c.
(signed) *H. H. Risley*,
Secretary to the Government of Bengal.

FORM I.—DISTRICT of the 24-PARGANAS, 1892.

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Motive Power.	Amount of Motive Power.	Average Daily Number of Operatives employed.						
					Adults.			Children.			Total Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Budge-Budge Jute Mill	Manufacture of gunny bags and cloth.	Steam	Indicated 1,972 H. P.	2,782	277	3,059	696	16	712	3,771
2	Empress India Cotton Mill, Shampur, Budge-Budge.	Cotton spinning	ditto	650 „	788	20	808	105	–	105	913
3	Baranagore Jute Factory, Southern Division.	Jute manufacture	ditto	1,200 „	1,148	371	1,519	181	41	222	1,741
4	Baranagore Jute Mill, Northern Division.	- - ditto - -	ditto	220 „	2,339	935	3,274	249	51	300	3,574
5	Kamarhatty Jute Mill	Manufacture of gunny cloth.	ditto	50 „	1,741	530	2,271	181	50	231	2,502
6	Cossipore Sugar Works	Sugar refining	ditto	86 I. H. P.	303	26	329	18	–	18	347
7	Bengal Silk Mill, Ooltadanga.	Silk weaving	ditto	25 H. P.	126	18	144	–	–	–	144
8	Clive Jute Mill, 43, Garden Reach.	Jute manufacture	ditto	180 „	843	251	1,094	247	6	253	1,347
9	Bengal Cotton Mill, 42, Garden Reach.	Cotton spinning	ditto	284 „	1,416	214	1,630	285	30	315	1,945
10	Garden Reach Spinning and Manufacturing, 22, Garden Reach	Manufacture of cotton.	ditto	120 „	664	84	748	56	–	56	804
11	Garden Reach Foundry, 10, Garden Reach.	Iron foundry and workshop.	ditto	24 „	56	–	56	–	–	–	56
12	Hooghly Jute Mills, 9, Garden Reach.	Jute manufacturing	ditto	190 „	2,325	574	2,899	384	20	368	3,267
13	Shamnagore Jute Works, Shamnagore.	- - ditto - -	ditto	1,990 „	2,742	947	3,689	392	50	442	4,131
14	Dunbar Cotton Mills, Shamnagore.	Cotton spinning	ditto	1,300 I. H. P.	1,180	96	1,276	87	28	115	1,391
15	Gunpowder Factory, Ichhapur.	Gunpowder manufacture.	ditto	200 H. P. Nominal.	461	2	463	31	–	31	494
16	Tittagar Paper Mill, Tittagar.	Paper manufacture	ditto	500 H. P.	421	14	435	–	–	–	435
17	Tittagar Jute Mill, Tittagar.	Jute manufacture	ditto	2,000 I. H. P.	2,052	720	2,772	285	13	298	3,070
18	Gouripur Jute Mill	Jute spinning, &c.	ditto	1,600 H. P.	1,724	307	2,031	186	13	199	2,230
19	Loco. Carriage Shop, Bijpur, Kanchrapara.	Mechanical carriage building and repairing.	ditto	—	1,337	2	1,339	–	–	–	1,339
20	India General Steam Navigation Company's Factory, 6, Garden Reach.	Dockyard ship building and repairing.	ditto	20 H. P. General.	466	–	466	–	–	–	466
21	Government Dockyard, Kidderpur.	Ship building and repairing.	ditto	200 H. P.	1,400	–	1,400	–	–	–	1,400
22	Foundry and Shell Factory, Cossipore.	Manufacture, casting of shell.	ditto	500 „	1,059	–	1,059	94	–	94	1,153
23	Shellac Factory, Cossipore.	Shellac manufacture.	ditto	24 „	140	100	240	1	–	1	241
24	Union Jute Mills, Sealdah.	Manufacture of gunny bags.	ditto	1,200 I. H. P.	1,175	101	1,276	160	–	160	1,436
25	Baranagore Branch Mills, Sealdah.	Jute spinning and weaving.	ditto	700 „	878	440	1,318	230	1	231	1,549
26	Calcutta Municipal Workshop, Entally.	Founders in brass and iron mechanical contracts.	ditto	60 H. P.	432	1	433	20	–	20	453
27	Gas Works, Belliaghatta	Manufacture of gas	ditto	7 „	400	–	400	–	–	–	400
28	Small Arms Ammunition Factory.	Manufacture of small arms and ammunition.	ditto	50 „ 24 „ 12 „ 4 „	1,558	–	1,558	174	–	174	1,732
29	Alipore Jail Jute Mill, Alipore.	Jute manufacture	ditto	30 „	293	–	293	–	–	–	293
30	Kankinara Jute Mill	Jute spinning	ditto	1,645 „	2,217	534	2,751	356	48	404	3,155

FORM I.—DISTRICT of the 24-PARGANAS, 1892.

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrates.	By special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
1	Worked by shifts - -	General holiday on Sunday.	-	1	1	2	-	2	1	-	3	
2	- - ditto - - -	- - - ditto - - -	-	-	-	-	-	2	1	-	3	
3	- - ditto - - -	- - - ditto - - -	-	3	5	8	-	2	-	-	2	
4	- - ditto - - -	- - - ditto - - -	-	6	4	10	-	2	-	-	2	
5	- - ditto - - -	- - - ditto - - -	-	-	3	3	-	2	-	-	2	
6	- - ditto - - -	Exempted under Section 5 B (2) (c).	-	4	2	6	-	2	1	-	3	
7	Worked by mid-day stoppage.	General holiday on Sunday.	-	-	-	-	-	2	1	-	3	
8	Worked by shifts - -	- - - ditto - - -	1	2	-	3	-	2	1	-	3	
9	- - ditto - - -	- - - ditto - - -	-	1	-	1	-	2	1	-	3	
10	- - ditto - - -	- - - ditto - - -	-	-	-	-	-	2	1	-	3	
11	Worked by mid-day stoppage.	- - - ditto - - -	-	2	-	2	-	1	1	-	2	
12	Worked by shifts - -	- - - ditto - - -	-	8	1	9	-	2	2	-	4	
13	- - ditto - - -	- - - ditto - - -	-	1	2	3	-	2	1	-	3	
14	- - ditto - - -	- - - ditto - - -	-	8	6	14	-	2	-	-	2	
15	Worked by mid-day stoppage.	- - - ditto - - -	-	2	2	4	-	2	-	-	2	
16	Worked by shifts - -	- - - ditto - - -	-	3	3	6	-	2	-	-	2	
17	- - ditto - - -	- - - ditto - - -	-	2	2	4	-	2	1	-	3	
18	- - ditto - - -	- - - ditto - - -	-	2	1	3	-	2	2	-	4	
19	Worked by mid-day stoppage.	- - - ditto - - -	-	8	5	13	-	2	-	-	2	
20	- - ditto - - -	- - - ditto - - -	-	1	4	5	-	2	1	-	3	
21	- - ditto - - -	- - - ditto - - -	-	2	1	3	-	2	1	-	3	
22	- - ditto - - -	- - - ditto - - -	-	6	6	12	-	2	1	-	3	
23	Worked by shifts - -	Exempted under Section 5 B (2) (c).	-	1	-	1	-	1	1	-	2	
24	- - ditto - - -	General holiday - -	-	3	5	8	-	2	1	1	4	
25	- - ditto - - -	- - ditto - - -	-	3	-	3	-	2	1	1	4	
26	- - ditto - - -	- - ditto - - -	-	-	1	1	-	2	1	-	3	
27	- - ditto - - -	Exempted under Section 5 B (2) (c).	-	-	-	-	-	2	1	-	3	
28	Worked by mid-day stoppage.	General holiday on Sunday.	-	-	1	1	-	2	-	-	2	
29	- - ditto - - -	- - - ditto - - -	-	-	-	-	-	2	1	-	3	
30	Worked by shifts - -	- - - ditto - - -	-	5	1	6	-	2	1	-	3	

FORM I.—DISTRICT of the 24-PARGANAS, 1892—*continued*.

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Motive Power.	Amount of Motive Power.	Average Daily Number of Operatives employed.						
					Adults.			Children.			Total Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
31	Soorah Jute Mill, 73, Narikaldanga.	Manufacture of gunny bags.	Steam - - -	50 N. H. P. -	452	153	605	78	11	89	694
32	Army Clothing Agency, Alipore.	Tailoring - -	ditto - - -	2 H.P. -	583	–	583	55	–	55	638
33	Hooghly Hydraulic Press, Chitpur.	Jute pressing -	ditto - - -	30 „ -	550	–	550	–	–	–	550
34	Chitpur Hydraulic Press	- - ditto - -	ditto - -	30 „ -	220	25	245	–	–	–	245
35	Calcutta Hydraulic Press, Chitpur.	- - ditto - -	ditto - - -	50 „ -	100	100	200	–	–	–	200
36	Ashcroft Hydraulic Press, No. 19, Nowabputty-road.	- - ditto - -	ditto - - -	40 „ -	225	40	265	–	–	–	265
37	Canal Press, Nowabputty-road, Chitpur.	- - ditto - -	ditto - - -	High-pressure horizontal engine, 60 nominal.	22	–	22	–	–	–	22
38	Victoria Hydraulic Press, Chitpur.	- - ditto - -	ditto - - -	16 H.P. -	162	25	187	–	–	–	187
39	Bengal Hydraulic Press, Cossipore.	- - ditto - -	ditto - - -	30 „ -	725	25	750	–	–	–	750
40	Cossipore Jute Warehouse, No. 3, Sugar Work-lane.	- - ditto - -	ditto - - -	200 „ -	3,000	200	3,200	–	–	–	3,200
41	Strand Bank Hydraulic Press, No. 5, Kali Prassanno Singhi's-street.	- - ditto - -	ditto - - -	40 „ -	67	100	167	–	–	–	167
42	Union Press Company, Limited, 9, Nowabputty, Chitpur.	- - ditto - -	ditto - - -	Two boilers, one compound engine, and cyclone presses.	600	75	675	–	–	–	675
43	Watson Patent Press, Chitpur.	- - ditto - -	Hydraulic power -	—	186	10	196	–	–	–	196
44	Gheel Press, Cossipore	Baling jute - -	Four hydraulic jute presses.	—	275	30	305	–	–	–	305
45	India General Steam Navigation Company, 21, Dockyard.	Ship building -	Steam - - -	20 H.P. -	266	–	266	15	–	15	281
46	Bengal Ice Manufacturing Company, Limited, 3, Gass-street.	Ice making - -	ditto - - -	500 I. H.P. -	109	–	109	–	–	–	109
47	Vulcan Iron Works, 13, Garden Reach.	Engineering - -	ditto - - -	16 H.P. -	225	2	227	–	–	–	227
48	Indian Patent Stone Company, Baliaghatta.	Manufacturing artificial stone.	ditto - - -	8 „ -	30	–	30	–	–	–	30
49	Government Telegraph Workshop.	Manufacture of telegraph line.	ditto - - -	40 „ -	610	–	610	–	–	–	610
			District Totals (6 to 12, and 15 to 23) - - -		42,873	7,349	50,222	4,530	378	4,908	55,130

DISTRICT of NADIA, 1892.

1	Kushtia Sugarcane Mill Factory.	Manufacture and repair of sugarcane crushing mills.	Boiler and engine -	One boiler and engine.	90	–	–	–	–	–	90

DISTRICT of JESSORE, 1892.

1	Tarpur Sugar Factory -	Sugar refining -	Steam - - -	30 H.P. -	87	–	87	–	–	–	87

FORM I.—DISTRICT of the 24-PARGANAS, 1892—*continued.*

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrates.	By special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
31	Worked by shifts	General holiday on Sunday.	–	6	2	8	–	2	1	–	3	
32	Worked by mid-day stoppage.	ditto	–	–	1	1	–	2	1	–	3	
33	Worked by shifts	Exempted under Section 5 B (2) (*c*).	–	–	–	–	–	2	1	–	3	
34	ditto	ditto	–	1	–	1	–	2	1	–	3	
35	ditto	ditto	–	1	–	1	–	2	1	–	3	
36	ditto	ditto	–	–	1	1	–	2	1	–	3	
37	ditto	ditto	–	1	–	1	–	2	1	–	3	
38	ditto	ditto	–	–	–	–	–	2	1	–	3	
39	Worked by mid-day stoppage.	ditto	–	1	–	1	–	–	1	–	1	
40	ditto	ditto	–	–	–	–	–	2	–	–	2	
41	Worked by shifts	ditto	–	1	1	2	–	2	1	–	3	
42	ditto	ditto	–	–	–	–	–	2	1	–	3	
43	ditto	ditto	–	–	2	2	–	2	1	–	3	
44	ditto	ditto	–	–	–	–	–	–	1	–	1	
45	Worked by mid-day stoppage.	General holiday on Sunday.	–	–	–	–	–	2	1	–	3	
46	Worked by shifts	Exempted under Section 5 B (2) (*c*).	–	–	–	–	–	1	1	–	2	
47	Working time from 8 a.m. till 5 p.m. Stoppage for tiffin from 2 p.m. to 2.30 p.m.	General holiday on Sunday.	–	1	1	2	–	2	1	–	3	
48	Worked by mid-day stoppage.	ditto	–	–	–	–	–	2	1	–	3	
49	ditto	ditto	–	–	–	–	–	2	1	–	3	
	—	—	1	86	64	151	–	91	42	2	135	

Abstract (District Totals).

Total Number of Factories.

Cotton mills	4
Jute mills	14
Silk mill	1
Paper mill	1
Municipal workshops	1
Government Clothing Agency	1
Telegraph works	1
Railway works	1
Jute presses	12
Leather works	1
Stone works	1
Iron works or foundries	2
Gas works	1
Sugar works	1
Ice works	1
Arms ammunition	3
Dockyards	3
Shellac factory	1
Total	49

Number of factories inspected once during year	2
Number of factories inspected twice during year	12
Number of factories inspected three times during year	31
Number of factories inspected more than three times during year	4
	49

DISTRICT of NADIA, 1892.

1	Stops for two hours at mid-day in cold weather, and three hours in the hot season.	Exempted from Sunday closing.	–	–	–	No accidents	1	1	–	–	2	

DISTRICT of JESSORE, 1892.

1	Six hours' shift	Exempted from the rule as to Sunday labour, *vide* Government notification, dated 16th February 1892.	–	–	–	–	nil	nil	1	–	1	Sugar works - 1 Number of factories inspected once during year - 1

Presidency Town of Calcutta, 1892.

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Motive Power.	Amount of Motive Power.	Average Daily Number of Operatives employed.						
					Adults.			Children.			Total Columns 8 and 9.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Stewart and Company, Old Court House-street.	Coach builders	Steam	7 H.P.	500	–	500	30	–	30	530
2	Phœnix Iron Works	Castings and machinery.	ditto	1 20 „ 1 12 „	560	–	560	–	–	–	560
3	Government Printing, 166, Dhurumtollah.	Printing type making.	ditto	12 „	390	–	390	–	–	–	390
4	Mackintosh, Burn, and Company.	Builders and engineers.	ditto	1 15 „ 1 12 „	237	6	243	16	–	16	259
5	Presidency Jail	Printing, &c.	ditto	16 „	206	–	206	4	–	4	210
6	Dykes and Company, Circular-road.	Coach builders	ditto	8 „	225	–	225	30	–	30	255
7	Her Majesty's Mint	Coining	Pneumatic and steam	Silver Mint, 140 H.P. Copper Mint, 130 H.P.	548	–	548	8	–	8	556
8	Riverside Press	Jute pressing	Hydraulic	55 H.P.	500	100	600	–	–	–	600
9	Crystal Ice Company	Ice making	Steam	210 „	65	–	65	–	–	–	65
10	Thacker, Spink	Printers and publishers.	Gas engine	7 „	270	–	270	4	–	4	274
11	Indian Pressing Company.	Pressing jute	Hydraulic	40 „	600	15	615	–	–	–	615
12	Oil Mill, Sealdah	Oil manufacture	Steam	12 „	49	–	49	–	–	–	49
13	Golabary Company	Pressing jute	ditto	40 „	350	50	400	–	–	–	400
14	Oil Mill, Sealdah	Oil manufacture	ditto	About 12 H.P.	35	1	36	–	–	–	36
15	Oil Mill, Circular-road	ditto.	ditto	„ 12 „	54	6	60	–	–	–	60
16	Iron Foundry	Castings, &c.	ditto	6 H.P.	60	–	63	–	–	–	60
17	15, Wood-street, Government.	Government mathematical instrument makers.	ditto	6 „	172	–	172	28	–	28	200
			District Totals (6 to 12, and 15 to 23)		4,821	178	4,999	120	–	120	5,119

District of Howrah, 1892.

1	Bali Paper Mills at Bali	Paper making	Steam-engine	1,476 H.P.	504	95	599	–	–	–	599
2	Bowreah Cotton Mills at Bowreah.	Cotton spinning	ditto	800 „	987	50	1,037	64	–	64	1,101
3	Ghusery Cotton Mills at Ghusery.	ditto	ditto	1,000 „	793	352	1,145	36	–	36	1,181
4	Victoria Cotton Mills at Ghusery.	Cotton yarning	ditto	50 N.H.P.	352	71	423	30	7	37	460
5	Calcutta Cotton Mills at Ghusery.	Manufacturing gunny bags.	ditto	60 „	378	181	559	167	11	178	737
6	Fort Gloster Jute Mills at Fort Gloster.	Manufacturing jute cloth and gunny bags.	ditto	1,000 H.P.	1,589	238	1,827	172	4	176	2,003
7	Ganges Jute Mills, Sibpur.	ditto	ditto	400 „	2,080	781	2,861	205	43	248	3,109
8	Central Jute Mills at Ghusery.	Manufacturing gunny bags and cloth.	ditto	1,100 I.H.P.	1,380	374	1,754	143	30	173	1,927
9	Howrah Jute Mills at Ramkristopur.	Manufacturing jute cloth and bags.	ditto	2,322 H.P.	2,303	770	3,073	419	101	520	3,593
10	Sibpur Jute Mills, Sibpur.	Jute spinning and weaving.	ditto	1,300 I.H.P.	217	797	1,014	230	67	297	1,311
11	Calcutta Port Commissioners' Dock at Howrah.	Ship building and repairing.	ditto	153 H.P.	533	–	533	–	–	–	533
12	Caledonian Dock at Sulkea.	Docking and repairing.	Pumping engine and workshops.	—	73	–	73	–	–	–	73
13	Howrah New Dock, Howrah.	ditto	Pumping engine	25 H.P.	986	–	986	–	–	–	986
14	Hooghly New Dock, Hooghly.	ditto	ditto	335 „	40	–	40	–	–	–	40

PRESIDENCY TOWN of CALCUTTA, 1892.

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrates.	By special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
1	Mid-day stoppage - -	Holiday on Sunday -	-	nil -	nil -	nil -	nil -	2	1	1	4	
2	- - ditto - - -	- - ditto - - -	-	-	-	-	-	2	1	-	3	
3	- - ditto - - -	- - ditto - - -	-	-	1	1	-	2	1	-	3	
4	- - ditto - - -	- - ditto - - -	-	-	-	-	-	2	1	-	3	Abstract (District Totals).
5	- - ditto - - -	- - ditto - - -	-	1	1	2	-	2	1	1	4	Total Number of Factories, 17.
6	- - ditto - - -	- - ditto - - -	-	-	-	-	-	2	1	-	3	Cotton mills - - - nil. Jute mills - - - - nil. Woollen mills - - - nil. Paper mills - - - - nil.
7	- - ditto - - -	- - ditto - - -	-	-	2	2	-	2	-	-	2	Ice mills - - - - 1 Oil mills - - - - 3 Cotton-cleaning factories - nil. Cotton presses - - - nil.
8	Contract system - -	Exempt from Section 5 B	-	-	-	-	-	2	1	1	4	Jute presses - - - - 3 Leather works - - - nil.
9	Shifts - - - -	- - - ditto - - -	-	-	-	-	-	2	1	1	4	Iron works or foundries - 3 Instrument makers - - 1
10	Stoppages - - -	Holiday on Sunday -	-	-	-	-	-	2	1	-	3	Printing presses, &c. - - 3 Coach builders - - - 2
11	Contract* - - -	Exempt from Section 5 B	-	-	-	-	-	2	-	-	2	Mint - - - - - - 1 Total - - - 17
12	Shifts and stoppages -	Holidays on varying week-days.	-	-	-	-	-	2	-	-	2	
13	Contract system* - -	Exempt from Section 5 B	-	-	-	-	-	2	-	-	2	Number of factories inspected once during year - - —
14	Shifts and stoppages -	Holidays on varying week-days.	-	-	-	-	-	2	-	-	2	Number of factories inspected twice during year - 8
15	- - ditto - - -	- - - ditto - - -	-	-	-	-	-	2	-	-	2	Number of factories inspected three times during year 5
16	Stoppages - - -	Holiday on Sunday -	-	-	-	-	-	2	-	-	2	Number of factories inspected more than three times during year - - - - 4
17	- ditto - - - -	- - - ditto - - -	-	-	-	-	-	2	-	-	2	17
	—	—	-	-	-	-	-	34	9	4	47	

DISTRICT of HOWRAH, 1892.

1	By shifts - - - -	Holidays on Sundays -	-	3	1	4	1	1	1	-	3	Total Number of Factories.
2	- ditto - - - -	- - ditto - - -	1	4	2	7	2	1	1	-	4	Cotton mills - - - - 4 Jute mills - - - - 5
3	- ditto - - - -	- - ditto - - -	-	3	5	8	1	1	1	-	3	Paper mills - - - - 1 Breweries - - - - 1
4	- ditto - - - -	- - ditto - - -	-	-	1	1	1	1	1	-	3	Flour mills - - - - 2 Jute presses - - - - 4
5	- ditto - - - -	Holidays on Sundays, and also Hindu and Muhammadan festivals.	-	4	1	5	-	2	1	-	3	Iron works or foundries - 5 Printing presses, &c. - - 1 Dockyards - - - - 6 Rope works - - - - 2
6	- ditto - - - -	Holidays on Sundays -	-	3	3	6	1	2	1	-	4	31
7	- ditto - - - -	- - ditto - - -	-	7	7	14	-	2	1	-	3	
8	- ditto - - - -	- - ditto - - -	-	3	6	9	-	2	1	-	3	
9	- ditto - - - -	- - ditto - - -	-	4	1	5	-	2	1	-	3	
10	- ditto - - - -	- - ditto - - -	-	14	4	18	-	1	1	-	2	
11	By stoppage from 1 to 1.30 p.m.	- - ditto - - -	-	3	4	7	-	1	1	-	2	
12	By stoppage from 12 noon to 1 p.m.	Holidays on varying week days.	-	1	1	2	-	1	1	-	2	
13	By stoppage from 11 a.m. to 12 noon.	Sundays and other holidays.	-	6	5	11	-	2	1	-	3	
14	By stoppage from 1 p.m. to 1.30 p.m.	On Sundays - - -	-	2	-	2	-	1	1	-	2	

* The sorters and balers of jute have no fixed hours; they come and go as they please, and are paid so much a bale.

DISTRICT of HOWRAH, 1892—*continued.*

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Motive Power.	Amount of Motive Power.	Average Daily Number of Operatives employed.						Total Columns 8 and 11.
					Adults.			Children.			
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
15	Union Dock, Sulkea	Docking and repairing.	Pumping engine	30 H. P.	249	–	249	–	–	–	249
16	Commercial Dock, Sulkea.	- - ditto - -	Steam engine	45 „	39	–	39	–	–	–	39
17	Ghusery Rope Works at Ghusery.	Rope-making	- ditto - - -	50 „	2	62	345	11	–	11	356
18	Salimar Rope Works at Sibpur.	- - ditto - -	- ditto - - -	—	176	14	190	15	–	15	205
19	Albion Foundry at Howrah.	Engineering, &c.	- ditto - - -	25 H. P.	117	–	117	–	–	–	117
20	East Indian Railway Carriage and Waggon Department at Howrah.	Building and repairing vehicles.	Stationary loco. engine.	148 „	1,788	–	1,788	–	–	–	1,788
21	Howrah Foundry, Howrah.	Mechanical engineering.	Cylinder engine	8 „	115	–	115	–	–	–	115
22	Howrah Iron Works, Howrah.	Ironwork - -	Steam engine	150 „	2,166	3	2,169	17	–	17	2,186
23	Victoria Engine Works at Howrah.	Engineering, &c.	- ditto - - -	—	691	1	692	–	–	–	692
24	Calcutta Workshop at Sibpur.	Wood and Iron-working.	Horizontal engine	62 H. P.	238	–	238	–	–	–	238
25	Hydraulic Jute Press at Sulkea.	Pressing and cutting jute.	Cutting engine	25 „	250	8	258	–	–	–	258
26	Ghusery Jute Press, Ghusery.	Screwing bales	Steam and hydraulic engine.	10 „	320	60	380	–	–	–	380
27	Nasmyth's Press, Ghusery.	Pressing jute	Steam engine	120 „	50	–	50	–	–	–	50
28	Caledonian Printing Works at Sulkea.	Steam printing	- - ditto - -	—	487	–	487	4	–	–	491
29	West Patent Press at Sulkea.	Jute baling - -	Engine and baling presses.	—	325	75	400	–	–	–	400
30	Oil and Flour Mills, Benares-road, Sulkea.	Oil and flour-making.	Horizontal engine	20 H. P.	63	–	63	–	–	–	63
31	Oil and Flour Mills, Hurganj-road, Sulkea.	- - ditto - -	- - ditto - -	—	61	5	66	–	–	–	66
			District Totals (6 to 12) and (15 to 23) - - -		19,633	3,937	23,570	1,513	263	1,776	25,346

DISTRICT of MIDNAPORE, 1892.

1	Guruli - - - -	Raw silk reeling	Steam - - -	About 2 H. P.	59½	2	61½	6	–	6	67½

DISTRICT of BURDWAN, 1892.

1	Raniganj Pottery Works, Raniganj.	Manufacture of fire-bricks, stoneware, drainage pipes, and other kinds of pottery.	Steam and hydraulic pressure.	220 H. P.	1,184	249·5	1,433·5	165·5	20	185·5	1,619
2	Bengal Paper Mills, Raghunathchak, Raniganj.	Paper making	Steam - - -	400 I. H. P.	247	77	324	33	–	33	357
3	Bengal Iron and Steel Works, Barakar.	Manufacture of pig iron and castings.	Steam-boilers	448 H. P.	834	75	909	8·5	8·5	17	926
				District Total - - -	2,265	401·5	2,666·5	207	28·5	235·5	2,902

* The factory was closed for some time.

DISTRICT of HOWRAH, 1892—*continued.*

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
15	By stoppage from 1 to 2 p.m.	On Sundays and other holidays.	–	–	2	2	–	1	1	–	2	
16	By stopping from 1.30 to 2 p.m.	General holidays - -	–	–	–	–	–	2	1	–	3	
17	By stoppage from 12 noon to 2 p.m., and for children from 11 a.m. to 2 p.m.	On Sundays - - -	–	–	1	1	–	2	1	–	3	Number of factories inspected once during the year - - - - 1*
18	By shifts - - -	On Sundays and public holidays.	1	–	1	2	–	1	1	–	2	Number of factories inspected twice during the year - - - - 12
19	By stoppage from 2 to 2.30 p.m.	- - - ditto - -	–	1	–	1	–	2	1	–	3	Number of factories inspected three times during the year - - - 16
20	Monday to Friday 11 a.m. to 12 noon.	On Sundays, and half-holidays on Saturday.	1	12	15	28	–	2	1	–	3	Number of factories inspected more than three times during the year - 2
												Total - - - 31
21	By stoppage from 1 to 1.30 p.m.	- - - ditto - -	–	–	–	–	–	2	1	–	3	
22	By stoppage from 2 to 2.30 p.m.	- - - ditto - -	–	–	1	1	–	2	1	–	3	
23	By stoppage from 1 to 1.30 p.m.	- - - ditto - -	–	1	1	2	–	2	1	–	3	
24	- - - ditto - -	Sundays and gazetted holidays.	–	–	1	1	–	1	1	–	2	
25	By stoppage from 1 to 2 p.m.	Exempted from Sunday labour.	–	–	–	–	–	–	1	–	1	
26	By shifts - - -	Exempted, *vide* Government Notification. No. 3175, dated 6th December 1892.	–	–	–	–	–	2	1	–	3	
27	- ditto - - -	Exempted from Sunday labour.	–	–	–	–	–	1	1	–	2	
28	By stoppage from 10 to 11.30 a.m.	On Sundays - - -	–	–	–	–	1	1	–	–	2	There is no fixed establishment. Contractors supply men who work at times during the year.
29	By shifts - - -	Exempted by Lieutenant Governor's order, dated 6th December 1893.	–	–	–	–	–	1	1	–	2	
30	By shifts, and also by, and stoppage from, to 2.30 p.m.	On Sundays - - -	–	–	–	–	–	1	1	–	2	
31	By stoppage from 6 to 7 a.m., and 5 to 6 p.m.	It is worked on Sunday, if it is not worked on Thursday and Friday.	–	–	–	–	–	1	1	–	2	
	—	—	3	71	63	137	7	44	30	–	81	

DISTRICT of MIDNAPORE, 1892.

1	Stoppage from 11 a.m. to noon.	For registered boys every Sunday.	–	–	–	–	–	1	–	–	1	

DISTRICT of BURDWAN, 1892.

1	By stoppage from 12 noon to 12.30 p.m., the working hours being from 7.30 a.m. to 4.30 p. m.	General holiday on Sundays.	–	–	1	1	–	1	–	–	1	Abstract (District Totals). Total Number of Factories, 3. Pottery - - - - 1 Paper mills - - - 1 Iron and steel works - 1 Total - - - 3
2	By shifts - - -	- - - ditto - -	–	–	1	1	–	1	–	–	1	
3	Blast furnaces by shifts: foundry, 9 hours per day; 2 hours' stoppage in the middle of the day.	General holiday on Sundays and on festivals, except on blast furnace, which has since been exempted under section 5 B (2) (*c*), *vide* Government notification No. 936, dated 7th March 1893.	2	–	–	2	–	1	–	–	1	Number of factories inspected once during the year - - - - 3
	—	—	2	–	2	4	–	3	–	–	3	

District of Hooghly, 1892.

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Motive Power.	Amount of Motive Power.	Average Daily Number of Operatives employed.						
					Adults.			Children.			Total Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Hastings Jute Mill, Rishra.	Jute manufacturing	Steam-engine	1,500 H. P.	2,434	758	3,192	290	22	312	3,504
2	Wellington Jute Mill, Rishra.	ditto	ditto	1,100 „	1,885	347	2,232	243	12	255	2,487
3	India Jute Mill, Serampore.	ditto	ditto	352 „	1,516	546	2,062	272	11	283	2,345
4	Champdany Jute Mill, Champdany.	ditto	ditto	1,283 „	1,891	808	2,699	179	12	191	2,890
5	Victoria Jute Mill, Telinipara.	ditto	ditto	100 „	1,124	353	1,477	181	9	190	1,667
6	Bally Bone Mill, Utterpara.	Bone-crushing	ditto	56 „	131	17	148	–	–	–	148
			District Totals		8,981	2,829	11,810	1,165	66	1,251	13,041

District of Chittagong, 1892.

1	Rice Mill at Sadarghat, on the river-side.	Husking and cleaning rice.	Two Cornish steam-boilers, one non-condensing steam-engine.	196 H. P.	360*	–	360	–	–	–	360

District of Cuttack, 1892.

1	Zobra, town Cuttack	Miscellaneous work	Steam-engine	24 N. H. P.	288	12	300	–	–	–	300

District of Dacca, 1892.

1	Messrs. M. David and Company's at Charanghop.	Jute baling	Two steam-engines	50 & 33 H. P.	950	67	1,017	–	–	–	1,017
2	Messrs. Ralli Brothers' Agency at Janbazar.	ditto	Three horizontal condensing engines.	Combined power, 85 H. P., working 32 hydraulic pumps, with power to 7 Watson's press.	755	20	775	–	–	–	775
3	Messrs. F. Wilson and Company's at Nitaiganj.	Jute assorting	None	None	As the work is done by piece-workers, no record is kept						
4	Messrs. R. Sim and Company's at Mundumala.	Jute baling	Steam-engine	6 N. H. P.	300	–	300	–	–	–	300
5	Mr. Highcazony's at Hajiganj.	Jute business	—	—	141	5	146	15	–	15	161
6	Mr. D. Easton's at Choto Bhagabanganj.	ditto	Two hydraulic presses.	Hand-power	100	–	100	–	–	–	100
7	Mr. D. Easton's at Nabiganj.	ditto	Three boomer presses.	ditto	125	–	125	–	–	–	125
8	Messrs. Donaldson and Company's at Madanganj.	ditto	ditto	ditto	90	–	90	–	–	–	90
9	Messrs. Donaldson and Company's at Sital Lakhya.	ditto	Three hand presses	ditto	75	–	75	–	–	–	75
10	Messrs. Donaldson and Company's at Narainganj.	ditto	ditto	ditto	85	–	85	–	–	–	85

DISTRICT of HOOGHLY, 1892.

	13. Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	14. Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory is exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year. 15. Fatal.	16. Serious.	17. Minor.	18. Total.	Number of Inspections held during the Year. 19. By Magistrate.	20. By Special Inspector of Factories.	21. By Medical Officers.	22. By other Officers (if any).	23. Total.	24. REMARKS.
1	By shifts	Sunday is described as general holiday, not except section 5 B (2) (c), or section 5 B (2) (d).	–	2	–	2	–	2	1	–	3	Total Number of Factories. 6.
2	ditto	ditto	–	2	3	5	–	2	1	–	3	Jute mills 5 Bone-crushing mill 1
3	ditto	ditto	–	–	7	7	–	2	1	–	3	Total 6
4	ditto	ditto	1	1	8	10	–	2	1	–	3	Number of factories inspected once during the year 0 Ditto twice 0 Ditto three times 5 Ditto more than three times 1
5	ditto	ditto	–	2	–	2	–	2	1	–	3	
6	Mid-day stoppage	ditto	–	–	–	–	1	2	1	–	4	
	—	—	1	7	18	26	1	12	6	–	19	

DISTRICT of CHITTAGONG, 1892.

1	Worked by shifts	General holiday on Sunday.	–	–	–	–	–	–	*	–	–	*In the milling season only. In other seasons the average is 160.

DISTRICT of CUTTACK, 1892.

1	Stoppage	Half-day on Saturdays. All Sundays and gazetted holidays; but in case of urgent work, the shops are kept open for such work only not specially exempted.	–	–	–	–	1	1	–	–	2	

DISTRICT of DACCA, 1892.

								Mr. Walsh.	Mr. Sen.			
1	Machinery worked by shifts.	Exempted	–	–	–	–	–	–	–	–	–	2	
2	Two shifts of men, changed every three hours.	In busy season there is no fixed holiday.	–	–	–	–	1	–	–	–	–	1	
3	The workers attend as they please.	As the workers attend as they please, there is no special holiday.	–	–	–	–	1	–	–	–	–	1	
4	By shifts	Exempted	–	–	–	–	1	1	–	–	–	2	
5	The coolies are employed here by contract, and make their own arrangements as to working by shifts or stoppages, or on Sundays.		–	–	–	–	–	1	1	1	–	2	
6	Mid-day stoppages	The labourers attend as they please.	–	–	–	–	–	–	–	1	–	1	
7	ditto	ditto	–	–	–	–	–	–	–	1	–	1	
8	ditto	Holidays on varying week-days, and sometimes on Sundays.	–	–	–	–	1	1	–	–	–	2	
9	ditto	ditto	–	–	–	–	1	–	–	–	1	2	
10	ditto	ditto	–	–	–	–	1	–	–	1	–	2	

DISTRICT of DACCA—*continued.*

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Motive Power.	Amount of Motive Power.	Average Daily Number of Operatives employed.						
					Adults.			Children.			Total Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
11	Union Jute Company, Limited, at Nabiganj.	Jute business	Three hand-presses	Hand-power	85	–	85	–	–	–	85
12	Messrs. M. Sarkies and Sons, at Hajiganj.	Jute baling	Four steam hydraulic presses.	—	200	–	200	–	–	–	200
13	Birkmyre Brothers, at Tantipara.	ditto	—	—	175	–	175	–	–	–	175
14	Mr. J. Nicholas's, at Bandor.	Jute pressing	Four boomer presses, worked by an engine of 10–12 N. H. P.		450	–	450	80	–	80	530
15	Messrs. M. David and Company's, at Sital Lakhya.	ditto	One steam-engine	35 H. P.	500	5	505	–	–	–	505
16	Messrs. M. David and Company's, at Cossipore.	ditto	ditto	8 „	175	–	175	–	–	–	175
17	Messrs. Alexander and Company's, at Sonakunda.	ditto	Three steam boomer presses and one hand-press.		230	–	230	10	–	10	240
18	Mr. A. N. Stephen's, at Madanganj.	ditto	Two boomer hand-presses		150	–	150	6	–	6	156
19	Mr. A. N. Stephen's, at Sital Lakhya.	ditto	ditto	ditto	150	–	150	6	–	6	156
20	Pir Mahamed and Company's, at Madanganj.	Kutcha pressing	Hand-presses	—	56	–	56	–	–	–	56
21	A. C. Mukherjee's, at Godnail.	ditto	ditto	—	100	–	100	–	–	–	100
22	J. Das and Company's at Sital Lakhya.	Jute business	Two hydraulic hand-presses		50	1	51	–	–	–	51
23	Mr. J. Lazarus', at Sital Lakhya.	ditto	—	—	40	–	40	–	–	–	40
24	Mr. T. S. Nahapiet's, at Bandar.	ditto	One horizontal pumping-engine of 45 H. P., and two hand-presses.		309	4	313	6	–	6	319
25	Messrs. R. Tim and Company's, at Gokechar.	Jute ping	—	6 H. P.	188	–	188	–	–	–	188
26	Swarighat, Dacca	Jute and cotton	One steam-engine	Cotton gin and two hand screws.	381	45	426	105	90	195	621
27	Locomotive and Carriage Workshop, Fulbariah, Dacca.	Repairs of machinery for locomotive carriage and flotilla.	Engine and machines.	(1) 25 H. P. engine. (25) Machines for metal work. (7) Machines for wood-work. (1) 5 cwt. steam hammer.	170	–	170	–	–	–	170
28	Imamganj	Jute pressing	Hand labour	12 men	50	2	52	–	–	–	52

DISTRICT of PATNA, 1892.

1	Chest Department and Saw Mill, Patna, Gulzarbagh.	Provision and abkari chests for packing opium.	Compound engine	70 N. H. P.	231	26	257	–	–	–	257
				District Totals (6 to 12 and 15 to 23)	231	26	257	–	–	–	257

DISTRICT of SHAHABAD, 1892.

1	Buxar Central Jail	Weaving cloth and tailoring.	Steam	16	550·775	–	550·775	–	–	–	550·775
2	Dehri Workshop	General engineering	ditto	66	168	3	171	17	–	17	188
3	Behia Sugar Mill	Making of sugar-mill machine.	ditto	10	122	2·5	124·5	17	1·5	18·5	143
				District Totals (6 to 12 and 15 to 23)	840·775	5·5	846·275	34	1·5	35·5	881·775

DISTRICT of DACCA—*continued.*

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory is exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.		By Medical Officers.	By other Officers (if any).	Total.	
	13.	14.	15.	16.	17.	18.	19.	20.		21.	22.	23.	24.
								Mr. Walsh.	Mr. Sen.				
11	No stoppage from August to November.	On Sundays only - -	-	-	-	-	1	1	-	1	-	2	
12	Free labour - - -	Free labour - - -	-	-	-	-	1	1	-	-	-	2	
13	Assorting by mid-day stoppage under baling by shifts.	There are no holidays from September to December.	-	-	-	-	1	-	-	-	-	1	
14	Mid-day stoppage -	Sunday observed when no pressure of work.	-	-	-	-	1	1	-	1	-	3	
15	Machinery worked by shifts.	Exempted - - -	-	-	-	-	1	-	-	1	-	2	
16	- - ditto - - -	- ditto - - -	-	-	-	-	1	-	-	-	-	1	
17	—	Sunday observed - -	-	-	-	-	1	-	-	-	-	1	
18	Mid-day stoppage -	No holidays except when business is slack.	-	-	-	-	-	-	1	-	-	1	
19	- - ditto - - -	- - ditto - - -	-	-	-	-	-	-	1	-	-	1	
20	- - ditto - - -	All Sundays and Hindu and Muhammadan holidays.	-	-	-	-	-	-	1	-	-	1	
21	By shifts - - -	Sundays observed -	-	-	-	-	-	-	1	-	-	1	
22	Mid-day stoppage -	Three or four days in a month.	-	-	-	-	-	1	1	-	-	2	
23	- - ditto - - -	Sunday observed - -	-	-	-	-	-	-	1	-	-	1	
24	- - ditto - - -	- - ditto - - -	-	-	-	-	1	1	-	-	-	2	
25	By shifts - - -	Exempted - - -	-	-	-	-	1	-	-	-	-	1	
26	Mid-day stoppage for two hours.	General holiday - -	-	-	-	-	1	-	-	-	-	1	
27	Mid-day stoppage for one hour.	No Sunday work. Gazetted holidays observed.	-	-	1	1	-	2 Once in July 1892, once in January.		-	Several times by officers connected with the Eastern Bengal State Railway System.	Several times.	
28	Only by mid-day stoppage.	Sundays generally closed, as also when festivals intervene.	-	-	-	-	1			-	-	1	

DISTRICT of PATNA, 1892.

1	Mid-day stoppages -	General holidays on Sundays. The mill works only five days per week.	-	-	-	-	2	2	1	-	5	
	—	—	-	-	-	-	2	2	1	-	5	

DISTRICT of SHAHABAD, 1892.

1	Work commences from 6.30 to 11 a.m., and again from 12 to 4.30 p.m.	General holidays, Sundays, Christmas Days, Good Friday, and Queen's Birthday.	-	-	-	-	2	1	-	-	3	Abstract (District Totals). Total Number of Factories. Weaving - - - - 1 General engineering - 1 Sugar mill - - - 1 Total - - - 3
2	Work stops at 11.30 a.m. and recommences at 1.30 p.m.	Holidays as per Government Gazette and all Sundays.	-	-	-	-	2	1	-	-	3	
3	Mid-day stoppages -	The work is by contract and the holidays optional.	-	-	-	-	1	1	-	-	2	Number of factories inspected twice during year - - - - 1 Number of factories inspected three times during year - - - 2
	—	—	-	-	-	-	5	3	-	-	8	Total - - - 3

DISTRICT of DARBHANGA, 1892.

Serial Number of Factory.	Name and Locality of Factory.	Nature of Industry.	Nature of Motive Power.	Amount of Motive Power.	Average Daily Number of Operatives employed.						
					Adults.			Children.			Total Columns 8 and 11.
					Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Somastipur Workshop, Somastipur.	Repairs of locomotive carriages and waggons.	One pair engine - Two portable engines.	100 H. P., 12 and 15 H. P. respectively.	444·5	–	444·5	–	–	–	444·5

DISTRICT of SARAN, 1892.

1	Sonpur Workshop -	Repairs to carriages and waggons.	One 30 horse-power engine, driving machinery, and two 6 horse-power portable, driving saw benches, &c., in saw mills.	—	410	–	410	–	–	–	410

DISTRICT of MONGHYR, 1892.

1	Somastipur Workshop, Somastipur.	Repair of locomotive carriages and waggons.	One pair engine - Two portable engines.	100 horse-power, 12 and 15 horse-power respectively.	444·5	–	444·5	–	–	–	444·5

DISTRICT of BHAGALPUR, 1892.

1	Central Jail, Bhagalpur	Manufacture of woollen goods.	Steam - - -	25 horse-power, nominal, works up to 90 horse-power.	434·65	–	434·75	–	–	–	434·65
		District Total (6 to 12 and 15 to 23) - - -			–	–	–	–	–	–	–

DISTRICTS of RAJSHAHI, PABNA, and RANGPUR, 1892.

1	Kagla - - - -	Silk - - -	Vertical engine and boiler.	About 10 horse-power.	258	–	258	46	–	46	304
2	Sirajganj Jute Company, Limited, Sirajganj.	Gunny bags and cloths.	Steam - - -	200 horse-power.	2,133	829	2,961	472	39	511	3,472
3	Locomotive Carriage Workshop, Saidpur.	Repairs and renewals of railway rolling stock.	Steam-engines, one 25 horse-power vertical, one 10 horse-power engine.	One 25 horse-power engine and one 10 horse-power engine.	647	–	647	–	–	–	647

DISTRICT of DARBHANGA, 1892.

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a general Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory is exempted under Section 5 *B* (2) (*c*) or (4) under Section 5 *B* (2) (*d*) of the Act, or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
	13.	14.	15.	16.	17.	11.	19.	20.	21.	22.	23.	24.
1	Worked from 6 a.m. to 4.30 p.m., with a mid-day stoppage of 1½ hours, from 11 to 12.30.	General holidays on Sunday and Saturday afternoon.	–	–	1	1	1	1	–	–	2	The accident mentioned was caused by an axle-box slipping on the left foot of an operative and thereby hurting him slightly.

DISTRICT of SARAN, 1892.

1	Worked by stoppages	Sunday whole holiday, and Saturday afternoon half-holiday.	–	1	–	1	1	1	1	–	3	Besides the holidays noted in Column 14, the factory was closed on the following days in each month, as shown below:— 5th and 6th August 1892, Mohurrum - 2 days. 26th to 30th September 1892, Durga Puja - 5 „ 1st and 3rd October 1892, Durga Pujah 5 „ 3rd, 4th, 5th, 7th and 8th November 1892, Sonepur Fair - - - 5 „ 23rd to 31st December 1892, Christmas - - - 9 „ 23 „

DISTRICT of MONGHYR, 1892.

1	Worked from 6 a.m. to 4.30 p.m., with a mid-day stoppage of 1½ hours, from 11 to 12.30.	General holidays on Sunday and Saturday afternoon.	–	–	1	1	1	1	–	–	2	The accident mentioned was caused by an axle box slipping on the left foot of an operative and thereby hurting him slightly.

DISTRICT of BHAGALPUR, 1892.

1	Work is stopped daily from 11 a.m. to 12 noon in winter, and from 10.30 a.m. to 1 p.m. in the hot weather; no night work.	Work is stopped on all Sundays, Good Friday, Christmas Day, and Empress's Birthday, being general holidays for the whole day.	–	–	5	5	11	1	311	17	340	
	—	—	–	–	–	–	–	–	–	–	–	

DISTRICTS of RAJSHAHI, PABNA, and RANGPUR, 1892.

	District Rajshahi.											
1	Worked by stoppage, 7.30 to 11.30 a.m., and 1.30 to 4.30 p.m.	The factory is exempted from the operation of Sub-section 1 of Section 5 B; *vide* Bengal Government notification, No. 29 T.G., dated 11th October 1892.	–	–	–	–	2	2	–	–	4	
	District Pabna.											
2	This mill is worked by shifts.	General holiday on Sundays.	–	2	2	4	2	1	2	–	–	
	District Rangpur.											
3	Worked by stoppages; working hours 6.30 to 10.30 a.m. and 11.30 a.m. to 3.30 p.m.	General holiday on Sundays.	–	1	–	1	–	2	–	–	4	

FORM II.—STATEMENT to accompany Annual Provincial Report on the

NAME OF DISTRICT.	Number of Factories within the Scope of the Act.												
	Cotton Mills.	Jute Mills.	Woollen Mills.	Paper Mills.	Breweries.	Flour Mills.	Cotton Cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Iron Works or Foundries.	Sugar Works.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	
24-Parganas	4	14	–	1	–	–	–	–	12	–	2	1	1
Calcutta	–	–	–	–	–	–	–	–	3	–	3	–	2
Nadia	–	–	–	–	–	–	–	–	–	–	–	1	3
Jessore	–	–	–	–	–	–	–	–	–	–	–	1	4
Howrah	4	5	–	1	1	2	–	–	4	–	5	–	5
Midnapore	–	–	–	–	–	–	–	–	–	–	–	–	6
Burdwan	–	–	–	1	–	–	–	–	–	–	1	–	7
Hooghly	–	5	–	–	–	–	–	–	–	–	–	–	8
Chittagong	–	–	–	–	–	–	–	–	–	–	1	–	9
Cuttack	–	–	–	–	–	–	–	–	–	–	1	–	10
Dacca	–	12	–	–	–	–	–	–	15	–	1	–	11
Patna	–	–	–	–	–	–	–	–	–	–	–	–	12
Shahabad	–	–	–	–	–	–	–	–	–	–	–	1	13
Darbhanga	–	–	–	–	–	–	–	–	–	–	–	–	14
Saran	–	–	–	–	–	–	–	–	–	–	–	–	15
Monghyr	–	–	–	–	–	–	–	–	–	–	–	–	16
Bhagalpur	–	–	1	–	–	–	–	–	–	–	–	–	17
Rajshahi	–	–	–	–	–	–	–	–	–	–	–	–	18
Patna	–	1	–	–	–	–	–	–	–	–	–	–	19
Rangpur	–	–	–	–	–	–	–	–	–	–	–	–	20
TOTAL	8	37	1	3	1	2	–	–	34	–	13	4	21

Working of the Factories Act for the Province of Bengal.

	Number of Factories within the Scope of the Act.													
	Printing Presses. 14.	Pottery Works. 14(*a*).	Rice Mills. 14(*b*).	Bone Mills. 14(*c*).	Ice Mills. 14(*d*).	Weaving. 14(*e*).	Oil Mills. 14(*f*).	Instrument Makers. 14(*g*).	Coach-Builders. 14(*h*).	Mint. 14(*i*).	Silk Mills. 14(*j*).	Railway Workshop. 14(*k*).	Clothing Agency. 14(*l*).	Telegraph Works. 14(*m*).
1	–	–	–	–	1	–	–	–	–	–	1	1	1	1
2	3	–	–	–	1	–	3	1	2	1	–	–	–	–
3	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	–	–	–	–	–	–	–	–	–	–	–	–	–	–
5	1	–	–	–	–	–	–	–	–	–	–	–	–	–
6	–	–	–	–	–	–	–	–	–	–	1	–	–	–
7	–	1	–	–	–	–	–	–	–	–	–	–	–	–
8	–	–	–	1	–	–	–	–	–	–	–	–	–	–
9	–	–	1	–	–	–	–	–	–	–	–	–	–	–
10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11	–	–	–	–	–	–	–	–	–	–	–	–	–	–
12	–	–	–	–	–	–	–	–	–	–	–	–	–	–
13	–	–	–	–	–	1	–	–	–	–	–	–	–	–
14	–	–	–	–	–	–	–	–	–	–	–	1	–	–
15	–	–	–	–	–	–	–	–	–	–	–	1	–	–
16	–	–	–	–	–	–	–	–	–	–	–	1	–	–
17	–	–	–	–	–	–	–	–	–	–	–	–	–	–
18	–	–	–	–	–	–	–	–	–	–	1	–	–	–
19	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20	–	–	–	–	–	–	–	–	–	–	–	1	–	–
21	4	1	1	1	2	1	3	1	2	1	3	5	1	1

(*Continued on page 128.*)

FORM II.—STATEMENT to accompany Annual Provincial Report on the

NAME OF DISTRICT.	Number of Factories within the Scope of the Act.									Number of Factories entered in Columns 2 to 16.			
	Municipal Works.	Stone Works.	Gas Works.	Dock-yards.	Arms and Ammunition.	Shellac Factories.	Opium Factories.	Other Factories within Scope of Act.	Total of Columns 2 to 15.	In which Steam Power is used.	In which Steam Power is not used.	Total of Columns 17 and 18.	
	14(*n*).	14(*p*).	14(*q*).	14(*r*).	14(*s*).	14(*t*)	14(*u*).	15.	16.	17.	18.	19.	
24-Parganas	1	1	1	3	3	1	–	–	49	47	2	49	1
Calcutta	–	–	–	–	–	–	–	–	17	15	2	17	2
Nadia	–	–	–	–	–	–	–	–	1	1	–	1	3
Jessore	–	–	–	–	–	–	–		1	1	–	1	4
Howrah	–	–	–	6	–	–	–	2	31	27	4	31	5
Midnapore	–	–	–	–	–	–	–	–	1	1	–	1	6
Burdwan	–	–	–	–	–	–	–	–	3	3		3	7
Hooghly	–	–	–	–	–	–		–	6	6	–	6	8
Chittagong	–	–	–	–	–	–	–	–	1	1	–	1	9
Cuttack	–	–	–	–	–	–	–	–	1	1	–	1	10
Dacca	–	–	–	–	–	–	–	–	28	13	15	28	11
Patna	–	–	–	–	–	–	1	–	1	1	–	1	12
Shahabad	–	–	–	–	–	–	–	1	3	3	–	3	13
Darbhanga	–	–	–	–	–	–	–	–	1	1	–	1	14
Saran	–	–	–	–	–	–	–	–	1	1	–	1	15
Monghyr	–	–	–	–	–	–	–	–	1	1	–	1	16
Bhagalpur	–	–	–	–	–	–	–	–	1	1	–	1	17
Rajshahi	–	–	–	–	–	–	–	–	1	1	–	1	18
Patna	–	–	–	–	–	–	–	–	1	1	–	1	19
Rangpur	–	–	–	–	–	–	–	–	1	1	–	1	20
TOTAL	1	1	1	9	3	1	1	3	150	127	23	150	21

Working of the Factories Act for the Province of Bengal—*continued.*

Number of Factories entered in Columns 2 to 16.							Average Daily Number of Operatives Employed on the Factories entered in Columns 2 to 16.						Total of Columns 29 and 32.
Inspected during the Year.					Not Inspected during the Year.	Total of Columns 24 and 25.	Adults.			Children.			
Once only.	Twice (but not Three Times).	Three Times.	More than Three Times.	Total of Columns 20 to 23.			Males.	Females.	Total.	Males.	Females.	Total.	
20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.
2	12	31	4	49	–	49	42,873	7,349	50,222	4,530	378	4,908	55,130
–	8	5	4	17	–	17	4,821	178	4,999	120	–	120	5,119
–	1	–	–	1	–	1	90	–	90	–	–	–	90
1	–	–	–	1	–	1	87	–	87	–	–	–	87
1	12	16	2	31	–	31	19,633	3,937	23,570	1,513	263	1,776	25,346
1	–	–	–	1	–	1	60	2	62	6	–	6	68
3	–	–	–	3	–	3	2,265	402	2,667	207	29	236	2,903
–	–	5	1	6	–	6	8,981	2,829	11,810	1,165	66	1,231	13,041
–	–	–	–	–	1	1	360	–	360	–	–	–	360
–	1	–	–	1	–	1	288	12	300	–	–	–	300
17	9	1	1	28	–	28	6,080	149	6,229	228	90	318	6,547
–	–	–	1	1	–	1	231	26	257	–	–	–	257
–	1	2	–	3	–	3	841	6	847	34	2	36	883
–	1	–	–	1	–	1	445	–	445	–	–	–	445
–	–	1	–	1	–	1	410	–	410	–	–	–	410
–	–	1	–	1	–	1	4,049	55	4,104	60	–	60	4,164
–	–	–	1	1	–	1	434	–	434	–	–	–	434
–	–	–	1	1	–	1	258	–	258	46	–	46	304
–	–	–	1	1	–	1	2,132	829	2,961	472	39	511	3,472
–	–	–	1	1	–	1	647	–	647	–	–	–	647
25	45	62	17	149	1	150	94,985	15,774	110,759	8,381	867	9,248	120,007

FORM II.—STATEMENT to accompany Annual Provincial Report on the

NAME OF DISTRICT.	Number of Factories entered in Columns 2 to 16 worked mainly by—				Number of Factories entered in Columns 2 to 16.						Number of Accidents during the Year on Factories entered in Columns 2 to 16.				
	Shifts or Sets.	Mid-Day Stoppages.	Otherwise.	Total of Columns 34 to 36.	On which General Holiday ordinarily given.		Exempted.		Worked "otherwise," *i.e.*, not falling under Columns 38 to 41.	Total of Columns 38 to 42.	Fatal.	Serious.	Minor.	Total.	
					On Sundays.	On varying Week-Days.	Under Section 5B (2) (*c*).	Under Section 5B (2) (*d*).							
	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	
24-Parganas	33	16	–	49	33	–	16	–	–	49	1	86	64	151	1
Calcutta	4	10	3	17	10	3	4	–	–	17	–	1	4	5	2
Nadia	–	1	–	1	–	–	1	–	–	1	–	–	–	–	3
Jessore	1	–	–	1	–	–	1	–	–	1	–	–	–	–	4
Howrah	15	16	–	31	25	1	5	–	–	31	3	71	63	137	5
Midnapore	–	1		1	–	–	1	–	–	1	–	–	–	–	6
Burdwan	2	1	–	3	2	–	1	–	–	3	2	–	2	4	7
Hooghly	5	1	–	6	6	–	–	–	–	6	1	7	18	26	8
Chittagong	1	–	–	1	1	–	–	–	–	1	–	–	–	–	9
Cuttack	–	1	–	1	1	–	–	–	–	1	–	–	–	–	19
Dacca	9	16	3	28	8	–	20	–	–	28	–	–	1	1	11
Patna	–	1	–	1	1	–	–	–	–	1	–	–	–	–	12
Shahabad	–	3	–	3	2	–	1	–	–	3	–	–	–	–	13
Darbhanga	–	1	–	1	1	–	–	–	–	1	–	–	1	1	14
Saran	–	1	–	1	1	–	–	–	–	1	–	1	–	1	15
Monghyr	1	–	–	1	1	–	–	–	–	1	–	2	–	2	16
Bhagalpur	–	1	–	1	1	–	–	–	–	1	–	–	5	5	17
Rajshahi	–	1	–	1	–	–	1	–	–	1	–	–	–	–	18
Patna	1	–	–	1	1	–	–	–	–	1	–	2	2	4	19
Rangpur	–	1	–	1	1	–	–	–	–	1	–	1	–	1	20
TOTAL	72	72	6	150	95	4	51	–	–	150	7	171	160	338	21

Working of the Factories Act for the Province of Bengal—*continued.*

	Number of Persons Convicted during the Year in respect of Factories entered in Columns 2 to 16.												
	Under Section 15 (1) of the Factories Act, Clauses—										Under Section 15 (2) of Factories Act.	Total of Columns 57 and 58.	REMARKS.
	a.	*b.*	*c.*	*d.*	*e.*	*f.*	*g.*	*h.*	*i.*	Total (*a*) to (*i*).			
	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.
1	-	-	-	-	-	-	-	-	-	-	-	-	
2	-	-	-	-	-	-	-	-	-	-	-	-	
3	-	-	-	-	-	-	-	-	-	-	-	-	
4	-	-	-	-	-	-	-	-	-	-	-	-	
5	4	-	-	-	-	-	-	-	-	4	-	4	
6	-	-	-	-	-	-	-	-	-	-	-	-	
7	-	-	-	-	-	-	-	-	-	-	-	-	
8	-	-	-	-	-	-	-	-	-	-	-	-	
9	-	-	-	-	-	-	-	-	-	-	-	-	
10	-	-	-	-	-	-	-	-	-	-	-	-	
11	-	-	-		-	-	-	-	-	-	-	-	
12	-	-	-	-	-	-	-	-	-	-	-	-	
13	-	-	-	-	-	-	-	-	-	-	-	-	
14	-	-	-	-	-	-	-	-	-	-	-	-	
15	-	-	-	-	-	-	-	-	-	-	-	-	
16	-	-	-	-	-	-	-	-	-	-	-	-	
17	-	-	-	-	-	-	-	-	-	-	-	-	
18	-	-	-	-	-	-	-	-	-	-	-	-	
19	-	-	-	-	-	-	-	-	-	-	-	-	
20	-	-	-	-	-	-	-	-	-	-	-	-	
21	4	-	-	-	-	-	-	-	-	4	-	4	

STATEMENT showing the Rates of Wages of different Class of Operatives Employed in the Mills of the Hooghly District.

Names of Mills.	Class of Operatives.	Rates of Wages of the Workers paid Monthly.	Rates of Wages of the Labourers paid Weekly.	REMARKS.
Wellington Jute Mills, Rishra.	Males - -	Rs. 5 to Rs. 28	Re. 1-8 to Rs. 5 -	The mill worked partly throughout the week and partly for a number of days only, the total working days for the year being 278¾.
	Females - -	Nil	„ 1-6 to „ 3	
	Boys - -	Nil	„ 1 to „ 3	
	Girls - -	Nil	„ 1 to „ 1-6	
Hastings Jute Mills, Rishra, Serampore.	Males - -	Rs. 11 to Rs. 50	Re. 1-8 to Rs. 5-8	The mill worked throughout the year ending 31st December full weeks.
	Females - -	Nil	„ 1-4 to „ 3	
	Boys - -	Rs. 3 to Rs. 9	„ 0-12 to „ 1-6	
	Girls - -	Nil	„ 0-12 to „ 1-6	
India Jute Mills, Serampore.	Males - -	Rs. 10 to Rs. 25	Re. 1-8 to Rs. 4-8	The mill worked throughout the year ending 31st December full weeks.
	Females - -	Nil	„ 1 4 to „ 1-12	
	Boys - -	Nil	„ 0-12 to „ 2-4	
	Girls - -	Nil	Nil.	
Champdany Jute Mills -	Males - -	Rs. 10 to Rs. 30	Re. 1-8 to Rs. 5	The mill worked throughout the year ending 31st December full weeks.
	Females - -	Nil	„ 1-4 to „ 3	
	Boys - -	Nil	„ 0-12 to „ 2-4	
	Girls - -	Nil	Nil.	
Victoria Jute Mills - -	Males - -	Rs. 5 to Rs. 25	Re. 1-8 to Rs. 4-8	The mill worked throughout the year ending 31st December full weeks.
	Females - -	Nil	„ 1-4 to „ 1-12	
	Boys - -	Nil	„ 0-12 to „ 1-8	
	Girls - -	Nil	Nil.	
Bally Bone Mill, Utterpara.	Males - -	Rs. 7 to Rs. 30	- Nil -	The mill worked full time, except since August to 31st December 1892. During that time the mills closed 27 days in addition to Sundays.
	Females - -	„ 5 to Rs. 5-8		
	Boys - -	Nil.		
	Girls - -	Nil.		

Hooghly Magistracy, April 1893. *F. W. Duke*, Officiating Magistrate.

No. 1,827 of 1893.

From the Chief Secretary to Government, North-Western Provinces and Oudh, to the Secretary of the Government of India, Home Department (Judicial); dated Naini Tal, 26 July 1893.

Sir,

GENERAL DEPARTMENT.

I AM directed to forward copy of a letter No. 238, dated 11th April 1893, from the special inspector of factories in these Provinces, being a report on the working of the Factories Act during the Year 1892, together with the Provincial Statement (form II), and to make the following observations for the consideration of the Government of India.

2. The revised rules under the Indian Factories Act (a copy of which is enclosed, as directed in your letter No. $\frac{14 \text{ Judicial}}{753}$, dated 4th July 1893) were issued on 6th May 1893, and were therefore not in force during the year reported on, and the new Act (XI. of 1891) has hardly been in force for a sufficient time to enable the Lieutenant-Governor to make any observations of much value. The proper number of inspections, as required by the revised rules, were not made during the past year, but it is expected that they will be made during the current year.

3. The total number of factories within the scope of the Act in these Provinces was 47, of which the largest number (14) were cotton presses; of the remainder six are breweries, five cotton mills, and six railway workshops. Steam power is used in 38 of the 47 factories. Mr. Walsh's report, which includes Bengal as well as the North-Western Provinces and Oudh, notices the general suitability of the larger mills to the purposes for which they are intended.

Thirteen factories were not inspected during the year. Of this number the Agra district alone accounts for eight; these were cotton presses, and were not working till the magistrate, who was on leave part of the year, had gone out into camp. The officiating magistrate only inspected the other two factories in the district. One factory not inspected during the year was the railway workshops at Jhánsi. These workshops were not entered on the register of factories till last month, but are included in the Provincial Statement, as they should have been entered as a factory and inspected. Their non-entry was due to doubts entertained by the local officers on the applicability to them of the definition of "factory" as given in the Act.

4. The average daily number of persons employed in the factories is made up of 16,631 men, 615 women, 1,113 boys and 12 girls. The health of the children employed in mills is said not to be as good in these Provinces as it is in Bengal. This is a point which should receive attention during the current year; and civil surgeons should at their inspections note any facts which are likely to be prejudicial to the health of the younger employés. Nine of the factories are reported to be worked by shifts or sets and 26 by midday stoppages, whilst the working of six factories is partly by one and partly by the other of these methods. Five of these six are Cawnpore factories, where the children are worked by shifts. Thirty-two factories are returned as having holidays on Sundays.

5. The factories exempted from certain provisions of the Act are the Government Army Boot and Equipment Factory and the Government Harness and Saddlery Factory in Cawnpore, which are exempted under section 5 B (2) (*c*), and the Rosa Sugar Works and Distillery, in the Sháhjahánpur district, which exempted under both 5 B (2) (*c*) and 5 B (2) (*d*).

6. The number of accidents during the year was 78, of which four were fatal, 24 serious and 50 minor. Two of the fatal accidents occurred in Cawnpore mills, where, however, the fencing of machinery is said to be carried out. The other two cases occurred in Lucknow, one in the Upper India Couper Paper Mills, where there is said to have been an unprotected driving belt, and to this the accident is presumably due. The magistrate has reported that the defect has been rectified.

The protection of dangerous machinery is understood to be generally carried out in a satisfactory manner, and Mr. Walsh is of opinion that the more serious accidents are, as a rule, due to gross carelessness on the part of the person injured.

7. No convictions in respect of any of the factories in these Provinces occurred during the year.

8. This Government approves generally of the special inspector's proposal that an inspector of boilers, to be paid by fees, should be appointed. The matter will be further considered on receipt of specific proposals for the appointment of an inspector, with a statement of the fees which it is suggested should be paid to him. The inspection of boilers would presumably only occupy a portion of his time, and arrangements might be made by which the locomotive superintendents of railways or some tried competent subordinates might be appointed inspectors.

9. The suggestion that the special inspector should be empowered, jointly with the magistrate of the district, to cross off the register of presses those that have complied with the Factory Act in such a way as to ensure the good health and comfort of those working in them, also commends itself to the Lieutenant-Governor.

I have, &c.
(signed) *J. J. D. La Touche*,
Chief Secretary to Government,
North-Western Provinces and Oudh.

FORM II.—STATEMENT to accompany Annual Provincial Report

Name of Presidency or Province :

NAME OF DISTRICT.	Number of Factories within the scope of the Act.													
	Cotton Mills.	Jute Mills.	Woollen Mills.	Paper Mills.	Breweries.	Flour Mills.	Cotton cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Iron Works or Foundries.	Sugar Works.	Printing Presses.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	
Aligarh	-	-	-	-	-	1	1	5	-	-	-	-	1	1
Saháranpur	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Dehra Dún	-	-	-	-	3	-	-	-	-	-	-	-	-	3
Sháhjahánpur	-	-	-	-	-	-	-	-	-	-	-	1	-	4
Bareilly	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Agra	1	-	-	-	-	-	-	8	-	1	-	-	-	6
Farukhabad	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Muttra	-	-	-	-	-	-	-	1	-	-	-	-	-	8
Cawnpore	4	1	1	-	-	-	-	-	-	2	-	-	-	9
Allahabad	-	-	-	-	-	-	-	-	-	-	2	-	-	10
Jhánsi	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Almora	-	-	-	-	1	-	-	-	-	-	-	-	-	12
Naini Tal	-	-	-	-	1	-	-	-	-	-	-	-	-	13
Lucknow	-	-	-	1	1	-	-	-	-	-	-	-	-	14
TOTAL	5	1	1	1	6	1	1	14	-	3	2	1	1	15

on the working of the Factories Act during 1892.

North-Western Provinces and Oudh.

	Number of Factories within the scope of the Act.						Number of Factories entered in Columns 2 to 16.			Number of Factories entered in Columns 2 to 16.						
										Inspected during the Year.						
	Lock Manufactory.	Canal Foundry and Workshops.	Sappers and Miners' Workshops.	Railway Workshops.	Other Factories within scope of Act.	Total of Columns 2 to 15.	In which Steam Power is used.	In which Steam Power is not used.	Total, Columns 17 and 18.	Once only.	Twice (but not three times).	Three times.	More than three times.	Total, Columns 20 to 23.	Not inspected during the Year.	Total, Columns 24 and 25.
	14(a).	14(b).	14(c).	14(d).	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
1	1	-	-	-	-	9	7	2	9	7	1	-	-	8	1	9
2	-	1	1	1	-	3	2	1	3	2	1	-	-	3	-	3
3	-	-	-	-	-	3	1	2	3	1	1	-	-	2	1	3
4	-	-	-	-	-	1	1	-	1	-	1	-	-	1	-	1
5	-	-	-	1	-	1	1	-	1	-	-	-	-	-	1	1
6	-	-	-	-	-	10	7	3	10	-	1	1	-	2	8	10
7	-	-	-	-	‡1	1	1	-	1	-	-	1	-	1	-	1
8	-	-	-	-	-	1	1	-	1	-	-	-	-	-	1	1
9	-	-	-	-	-	8	8	-	8	-	-	2	6	8	-	8
10	-	-	-	1	-	3	3	-	3	1	2	-	-	3	-	3
11	-	-	-	1	-	1	1	-	1	-	-	-	-	-	1	1
12	-	-	-	-	-	1	1	-	1	-	1	-	-	1	-	1
13	-	-	-	-	-	1	-	1	1	-	-	1	-	1	-	1
14	-	-	-	2	-	4	4	-	4	-	4	-	-	4	-	4
15	1	1	1	6	1	47	38	9	47	11	12	5	6	34	13	47

(Concluded on page 136.)

FORM II.—STATEMENT to accompany Annual Provincial Report

Name of Presidency or Province :

NAME OF DISTRICT.	Average Daily Number of Operatives Employed on the Factories entered in Columns 2 to 16.							Number of Factories entered in Columns 2 to 16 worked mainly by				Number of Factories entered in Columns 2 to 16.						
	Adults.			Children.			Total of Columns 29 and 32.	Shifts or Sets.	Midday Stoppages.	Otherwise.	Total, Columns 34 to 36.	On which general Holiday ordinarily given.		Exempted.		Worked "otherwise," *i.e.* not falling under Columns 38 to 41.	Total, Columns 38 to 42.	
	Males.	Females.	Total.	Males.	Females.	Total.						On Sunday.	On varying Week-days.	Under Section 5B, (2) (*c*).	Under Section 5B, (2) (*d*).			
	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	
Aligarh	544·2	–	544·2	25·39	–	25·39	569·59	4	4	–	*8(9)	–	4 (4)	–	–	–	*12 (13)	1
Saháranpur	854	–	854	–	–	–	854	–	1	2	3	3	–	–	–	–	3	2
Dehra Dún	179	–	179	–	–	–	179	–	3	–	3	3	–	–	–	–	3	3
Sháhjahánpur	767	–	767	38	–	38	805	1		–	2	–	–	1		–	2	4
Bareilly	90	–	90	–	–	–	90	–	1	–	1	1	–	–	–	–	1	5
Agra	684·45	149·39	833·84	66	–	66	899·84	4	3	†3	10	5	2	–	–	†3	10	6
Farukhabad	556	–	556	16	–	16	572	–	1	–	1	1		–	–	–	2	7
Muttra	41	5	46	14	–	14	60	–	1	–	1	1		–	–	–	2	8
Cawnpore	8,770·83	452	9,222·83	944·58	11·5	956·08	10,178·91	2	3 (§5)	–	13	6	–	2	–	–	8	9
Allahabad	344	–	344	–	–	–	344	–	3	–	3	1	2	–	–	–	3	10
Jhánsi	989	–	989	–	–	–	989	–	1	–	1	1	–	–	–	–	1	11
Almora	30	–	30	–	–	–	30	–	1	–	1	1		–	–	–	2	12
Naini Tal	54	–	54	–	–	–	54	–	1	–	1	1	–	–	–	–	1	13
Lucknow	2,728	8·5	2,736·5	10	–	10	2,746·5	1	3	–	4	4	–	–	–	–	4	14
TOTAL	16,631·48	614·89	17,246·37	1,113·97	11·5	1,125·47	18,371·84	15	32	5	‖52 53	32	15	3	1	4	¶54 55	15

on the working of the Factories Act during 1892—*continued.*

North-Western Provinces and Oudh—*continued.*

	Number of Accidents during the Year, in Factories entered in Columns 2 to 16.				Number of Persons Convicted during the Year in respect of Factories entered in Columns 2 to 16.												Remarks.
					Under Section 15 (1) of the Factories Act, Clauses—										Under Section 15 (2) of Factories Act.	Total, Columns 57 & 58.	
	Fatal.	Serious.	Minor.	Total.	*a.*	*b.*	*c.*	*d.*	*e.*	*f.*	*g.*	*h.*	*i.*	Total, (*a*) to (*i.*)			
	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.
1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	* Detail of printing press not given.
2	–	3	2	5	–	–	–	–	–	–	–	–	–	–	–	–	
3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
4	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	
5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
6	–	–	4	4	–	–	–	–	–	–	–	–	–	–	–	–	† For three factories details have not been given as they have either been closed during the year or worked occasionally; they have accordingly been entered in the alternative columns.
7	–	–	2	2	–	–	–	–	–	–	–	–	–	–	–	–	‡ Gun-carriage factory.
8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
9	2	11	32	45	–	–	–	–	–	–	–	–	–	–	–	–	§ Children worked by shifts.
10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
11	–	1	2	3	–	–	–	–	–	–	–	–	–	–	–	–	
12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	‖ The excess of six over columns 16, 19, and 26, is due to the inclusion of the sugar works in Shâhjahânpur, and five mills in Cawnpore, working both by shifts and stoppages.
14	2	8	8	18	–	–	–	–	–	–	–	–	–	–	–	–	
15	4	24	24	78	–	–	–	–	–	–	–	–	–	–	–	–	¶ The excess of eight over columns 16, 19, and 26 is due to four presses in the Aligarh District, the one in the Muttra District, the Gun Carriage Factory at Farukhabad, and the Brewery at Almora, having holidays on both Sundays and varying week-days, and the Shâhjahânpur Sugar Works being exempted under Section 5B. (2) (*c*) and (*d*).

No. 238, dated 11 April 1893.

From *C. A. Walsh*, Esq., A.M.I.C.E., Special Inspector of Factories, North-West Provinces and Oudh, to Chief Secretary to Government, North-West Provinces and Oudh.

Sir,

Your No. $\frac{457}{III-301B}$, dated 10th March. In compliance with the above, and in accordance with Government of India letter No. $\frac{11-Judl.}{863}$, dated Simla, 30th June, I have the honour to submit my annual report on the working of the Indian Factory Act in Bengal, the North-Western Provinces and Oudh. I find there would be some difficulty in reporting on the factories of one province without reference being made to those of the other, hence I considered it desirable to compile one report, forwarding a copy of the same to the Government of Bengal and North-Western Provinces' Government simultaneously. Much that relates to one province is common to both, and subjects that are applicable to one only will be dealt with separately. I think by so doing the report may be of greater interest and useful in comparing the manner in which the Act has been generally received, and its various sections observed and rules carried out.

2. The amended Act of 1891 is comparatively new to the mill owners, and has not as yet been thoroughly understood by all, but in the majority of the cases I have been very favourably impressed by the manner in which the Act has been observed in both provinces, and the general result of my inspections has been extremely satisfactory.

3. Details regarding the number of inspections made by myself, magistrates, medical officers, and others can be obtained by reference to Form II. compiled from district statements, Form I, together with other information respecting the number of operatives employed, the system of working, accidents, &c.

Letter No. 457, paragraph 2, dated 10th March 1893.

4. There has been some unavoidable delay in circulating the rules issued under the Act in the North-Western Provinces, due principally to the draft rules having been forwarded to me and to the Secretary of Upper India Chamber of Commerce, inviting the opinions of managers and myself on certain points before final publication. Only a few inspections were made by the civil surgeon in some districts on that account, as their position as factory inspectors in the year under review was not clearly understood, but this year the full complement of inspections will be made.

Number employed.

5. The jute mills situated in Calcutta and the suburbs employ a far greater number of operatives than any other industry in the country. For example, there are 19 jute mills in the Presidency Division and Howrah, employing no less than 48,311 men, women, and children. Comparing these figures with the cotton mills, and a considerable difference is noticeable, taking eight large cotton mills of Bengal and four in the North-Western Provinces, they jointly employ 13,434 adults and children. Dividing these figures by the number of mills, we have the following result: each jute mill averagely employs 2,542 operatives, and each cotton mill averagely employs 1,117 operatives.

6. All the large mills of both provinces are exceedingly fine, strongly built, the rooms lime washed inside and colour washed outside periodically; most of the rooms are well lighted and ventilated. The jute mills are usually built on one floor, each room averaging from 15 to 19 feet in height, a height seldom or never attained in the home factories. I attribute the excellent ventilation more to this fact, combined with open doors and windows, than to any artificial means of ventilation occasionally adopted. There is, however, one exception that calls to mind the humid atmosphere and limited space occasionally allotted to the English operative in home factories, and this was built on the banks of

the Hughly 70 years ago from the designs of a Lancashire mill, the height of each room barely exceeding 10 feet. In my former report, dated 25th October, and addressed to the Government of Bengal, I expressed my opinion on the suitability of the mills of this country in general, and further comment now seems unnecessary.

Working hours for adults and children.

7. The usual working hours in the jute mills average from 6 a.m. till 6.30 p.m. During the hot weather the mills may work from one to one and a half hours longer; it should, however, be remembered that no jute mill works by artificial light; consequently the hours are again reduced as the days become shorter. There are intervals during the day amounting to three hours, and it is the custom for the Indian operative to leave the mill entirely for this period. The English system of breakfast and dinner hours and other intervals are not suited to this country, as the Indian operative, preparatory to taking his food has to cook it, and then prefers an interval for rest or sleep after. This is arranged in the mills by introducing three shifts; one at nine a.m., one at 12 p.m., and another at three p.m. This custom has always met with general approval.

The children in the jute mills work in two shifts, two separate sets being required for the purpose. A set working from six till nine and again from 12 till three p.m.; B set works from nine till 12 p.m. and three till seven a.m. In some mills these hours slightly differ. Again there a few mills in which the boys remain nine hours on the premises, but the intervals allowed during the day fully amount to two hours, so the actual employment does not exceed seven hours.

Health of children.

8. Respecting the health of the children, I have no reason to deviate from or alter the opinion I have previously arrived at, viz., that the majority of the children are thoroughly healthy, and that the work they perform is in no way detrimental to their health. This also appears to be the opinion of the civil surgeons I have spoken to, whose duty it is to inspect the children. No doubt possibly 5 or 10 per cent. of the children employed are weak, stunted in growth, and feeble for their age, but this cannot be attributed to the light work they perform in these mills. I have paid particular attention to the condition of the children as regards their health when travelling through the many villages and bazars my duties take me, and the same percentage may be observed that could not be brought under the category of healthy children. I allude to those that are not employed in either textile or non-textile factories.

The children working in the North-Western Provinces' mills do not appear on the whole as healthy as those in Bengal, but I can attribute no special reason for this; the wages they earn are less, but on the other hand living is cheaper.

9. There is no doubt the large mills have added much to the comfort and pleasure of the native worker, both adults and children, and they are now able to indulge in luxuries which were previously unobtainable. A family of four can earn from 30 to 40 rupees a month in the jute mills, a boy or girl alone of 10 or 11 years of age earning from three rupees eight annas to four rupees per mensem. In the North-Western Province these figures may be taken at one-third less, as labour is cheaper. The above wages appear to be higher than can be obtained by any other handicraft not requiring specially skilled labour. Comparing the average standard of wages earned by children and adults employed in these mills with the average obtainable in payment of outside labour, there is a striking difference in favour of the former. As a proof of this I will quote a passage from a recent report on the economic condition of Bengal: "A fairly comfortable living is gained in the Patna division by 60 per cent. of the agricultural population, about 5 per cent. of the population are in a better plight than the agriculturists. Blacksmiths, carpenters, masons, and thatchers earn an average of Rs. 12 a month, or more than sufficient to keep a family of five in comfort." A number of men, women, and children can at most times of the day be seen in the grounds of the large mills, either asleep under trees or shady parts of the buildings, taking their meals, bathing, or

smoking. A special shed having boen built in many mills for this purpose, the question might suggest itself to some few, why are so many able to leave their work at all times of the day, when in the home mills every one is kept under lock and key? The answer is simple, but a very striking one. There are 100 per cent. more hands employed in every jute mill in Bengal than is required to work a similar sized mill in Dundee.

Children in the Cawnpore mills.

10. The working of the Factory Act in the large cotton mills of Cawnpore is not as satisfactory as I could wish regarding the employment of the children and the hours they work, a percentage apparently working longer than they are entitled to by Section 7 of the Factory Act. The fault principally lies with the boys themselves, as they do all in their power to evade this order, as by so doing it enables them to receive double pay. The managers experience considerable difficulty while endeavouring to prevent this, but have not always been successful. If the boys are turned out of a mill in the middle of the day they have frequently been known to take the opportunity of working the second half day in another mill in the vicinity, drawing pay from both. It is not an easy matter to check this, as the boys change from mill to mill frequently, thus making it difficult to recognise them. To prevent this some mill owners have introduced a school on the premises with fairly good results. The boys attend twice a day for two hours at a time, and one hour interval besides for recreation enables them to remain at the mill throughout the day, with this advantage to the boys that they receive some free education. It should be borne in mind that the managers gain little or nothing by the employment of small boys, or "half times" as they are termed, as they are paid in proportion to the hours they work, viz., "half times" Re. 1-8 per mensem, and "full times" Rs. 3 per mensem.

11. Looking at the question of child labour from a supposed humane point of view, is there any great kindness shown to small boys or girls by turning them out of a mill in which their parents are at work to find their way home in the heat of the day alone to some distant village? It is no home to them when reached, as the doors are padlocked and must remain so until their parents or elder members of the family arrive. My experience has given me the impression that the mills are by many of the children regarded more in the light of a playground than a workshop with the advantage that their employment affords considerable assistance to their parents. Under these circumstances I should be glad if all managers would see fit to erect a school in or outside the mill premises, as the cost would be trivial and the advantage to themselves and boys considerable. Like the jute mills of Bengal (but not to the same extent) a far larger proportion of boys are engaged to attend to the work allotted them (generally at the ring spinning frames of the cotton mills) than is required for the purpose in a Lancashire mill; so it must be satisfactory to all those who have interested themselves on behalf of the child labour of this country to know the children are not expected to perform the same amount of work as is required from a boy or girl in an English mill.

Drinking water.

12. I notice the mills situated in the principal towns of the North-Western Provinces will shortly be able to obtain a plentiful supply of pure water. It is I think impossible to overrate the manifold advantages occurring from the power of being able to obtain in a mill of this country an unlimited supply of good drinking water, and I hope all will take advantage of this supply when the works are completed. The native operative once accustomed to good filtered water will doubtless relinquish the custom of drinking and bathing from the tanks and cesspools that so frequently surround their villages, a custom which cannot but result in the spread of infectious diseases. It would be conferring a great boon on the jute presses and other large factories situated at Chitpur and Cossipur if connection with the main pipes of the municipal supply could be arranged, and thus enable these large mills to obtain good drinking water, which is sadly needed in those parts.

Medical Officer.

13. I should like to bear testimony to the great assistance rendered and benefit conferred by the appointment of Civil Surgeons and other medical officers as inspectors of factories. Any suggestion I notice that they have made regarding sanitary arrangements, ventitation, or kindred subjects, have as a rule been efficiently carried out. It should however,

however, be pointed out that in some cases where complaint has been laid regarding disagreeable or noxious effluvia arising from latrine, drain, &c., the blame should not always be attached to the manager or owner. Many large mills pay from Rs. 500 to Rs. 1,200 annually to the municipal authorities for the purpose of securing cleanliness and efficient attention to this department. Managers should certainly be able to compel the municipality to carry out the work they undertake, not only by prompt and regular removal of night soil, but also by the frequent use of disinfectants. However, I am able to record that great improvements have been made by many mill owners in the matter of latrines, and orders in my last report have received due attention, and in a few instances in which no accommodation had been provided, suitable latrines are now in course of erection.

The manner in which the Act is received.

14. I am glad to notice that managers are tending far more than was formerly the case to recognise the Act as a law, and I have to offer my thanks to those magistrates who, having acquainted themselves with certain points in my reports, have in some cases enforced the law against the parties concerned. I have usually noticed that the way in which the provisions of the Act are complied with varies to some extent in proportion with the size and importance of the factory concerned; that is to say, the larger and more important a factory is, the more thoroughly and systematically are the various sections of the Act carried out. I attribute this fact to the circumstance that the largest mills obtain as a rule their leading hands from England and Scotland, who have been brought up from boyhood in the observance of, and on the lines of the Factory Act; whereas, in smaller establishments, where the manager and chief hands have received their training in this country, the Act is regarded as a nuisance and as applying to all other factories but their own.

Accidents.

15. As regards accidents, there are few fatal ones that occurred in the year under review. Although the percentage may appear high, many are so trivial that they should hardly be brought under the definition "accidents." The more serious ones are generally due to gross carelessness on the part of the person injured. However, I trust accidents will be reduced to the minimum, as dangerous parts of belting, gearing, &c., become better protected. The machinery in the newer mills requires little to be done in the way of fencing, as the machinery has been sent out well protected by the makers. In my next annual report I shall deal more fully with this subject, as copies of all accidents will be entered in my register. Now only those occurring in the town of Calcutta are forwarded direct to me.

Boiler Inspector.

16. When inspecting certain factories in the North-Western Provinces and Oudh it occurred to me that it would be advantageous for Government to introduce a system of supervision and periodical inspection of boilers. In several instances managers have expressed a wish that their boilers might be inspected by a competent official, and although it might not be considered necessary to appoint a boiler inspector similar to Bengal, yet at the same time it would be desirable to appoint some competent authority, such as the Locomotive Superintendent of a State Railway (if willing to accept the post), as his training qualifies him for such important duties. This would not add to the expense of Government supervision, as the fee for inspecting a boiler would naturally be paid by the owner.

Presses.

17. I should like to say a few words regarding the inspection of jute and cotton presses situated in outlying districts. It appears to me that these need hardly be brought under the operation of the Factory Act, but at the same time the Government might reserve to themselves the right of placing any press under the Act for the purpose of securing and enforcing the adoption of suitable sanitary arrangements. As a press is solely used to press raw material into a smaller space to facilitate export and reduce freight, it can hardly be termed a factory, and the number of days they work during the year would seldom amount to four months. Again the sorters of cotton and jute have no restriction placed on them as regards working hours, the system being piece or contract work. They come and go as they please. Much of my time is taken up travelling about the country in search of these presses, and when found are generally closed. I recommend the

Bengal and North-Western Provinces' Governments empower me, jointly with the magistrate of the district, to cross off the register of presses that have complied with such sections of the Factory Act as shall ensure the good health and comfort of those working in them.

"18. I have said little regarding the employment and condition of the women working in these mills, but in my next report I shall deal fully with this subject. The women to all appearance are healthy and generally engaged in the sewing and hemming rooms, but a few are employed in feeding the jute softener machine and carding machine, while in cotton mills their work generally consists of winding the yarn or frames turned by hand power. The women are usually allowed to bring their babies and little ones with them in such departments where no machinery is in use. The children may be seen at any time asleep or playing about. If this were not allowed it would be a great hardship to the mothers, as it would prevent them from earning their living, as the children are too young to be left alone. If any one entertains any doubt on this point, believing the babies are made to work, I feel sure Mr. Alexander, of the Ganges Jute Mill, would have no objection to them visiting his mill and seeing this department for themselves, when any doubts they may have held on this point would at once be dispelled. I mention the "Ganges" as it is one of the largest in Bengal and more easily accessible from Calcutta than any other.

Employment of women.

19. Finally, it is with satisfaction I am able to state that, with few exceptions, the rules issued under the Act have been posted, the Government of India returns duly submitted, and the register of children maintained in the forms prescribed.

I regret I have been unable to report quite in the order suggested by the Government of India in the above quoted letter, as one subject has led on to another, but in my next report I may better able to conform to the order laid down.

No. $\frac{1,200}{\text{III}-301\text{B}-177}$ of 1893.

NOTIFICATION.—General Department.—Dated 6 May 1893.—Miscellaneous.

WITH reference to this Department Notification No. $\frac{321}{\text{III}-301\text{B}-152}$, dated the 17th February 1893, the following rules have been made by the Lieutenant-Governor and Chief Commissioner, North-Western Provinces and Oudh, and Section 18 (4) of the Indian Factories Act XV. of 1881, as amended by Act XI. of 1891, and are hereby published for general information and guidance :—

Rule 1.—Every inspector who is appointed under Section 3 of the Act shall, in respect of the factories in any district, be officially subordinate to the magistrate of the district. The magistrate of the district, in his capacity of inspector, shall be officially subordinate to the Commissioner of the division.

2. Each inspector shall keep a register of all factories within his jurisdiction in the Form A attached to these rules, and a permanent serial number shall be given to each factory.

3. Inspectors shall inspect factories within their jurisdiction not less than twice a year, and shall satisfy themselves that the provisions of the Act are duly observed. The inspectors should arrange between themselves for suitable dates of inspection.

4. Inspectors may enter a factory for the purposes of Section 4 of the Act at any time during the day, provided that they shall, in order to verify registers kept under Section 9 of the Act, examine the children employed only in working hours.

5. The

5. The magistrate of the district or provincial inspector shall send through the post, under registered cover, a notice to the occupier of any factory which he may consider as coming within the purview of the Act, intimating his intention of placing the factory upon his register.

6. Any person served with a notice under Rule 5 whose premises do not fall within the definition of a factory given in the Act may, within 15 days of the receipt of such notice, forward to the magistrate of the district a statement setting forth his objections to the registration of the premises as a factory. The district magistrate shall consider and dispose of such objections after making such inquiry as he may deem necessary, and shall make up his register of factories in accordance with the provisions of the Act, intimating his decision to the provincial and medical inspectors.

7. When any premises cease to be occupied as a factory, the occupier may give notice of the fact to the district magistrate, who shall, if satisfied that the Act is no longer applicable to such premises, remove them from his register of factories, and intimate the fact of his having done so to the provincial and medical inspectors.

8. Each inspector shall keep a register of inspections in Form B below, in which shall be recorded all orders or remarks passed by him at each inspection.

9. Each inspector shall at once furnish a copy of his inspection memorandum to the Commissioner of the division (through the magistrate of the district, if the inspector be not himself such magistrate) and also to the occupier of the factory inspected. The despatch through the post, under registered cover, of a copy of the inspection memorandum shall be deemed to be sufficient service on the occupier of the factory of any orders or directions therein contained.

10. It shall be the duty of the civil surgeon in each district to certify, in Form C below, the age of any person employed, or desirous of being employed, in a factory, when called upon to do so under Section 5 of the Act. A fee of four annas shall be the fee payable to a certifying surgeon by a person employed in a factory for examining him. After examination the civil surgeon shall give him a certificate as to his age according to the provisions of that section. The district magistrate shall provide the civil surgeon with the required forms of certificate.

11. Every occupier of a factory shall keep a file of all certificates of certifying surgeons relating to children in his employ, and shall produce it when required by the inspector. Every such certificate shall be returned by such occupier to the parent or guardian of the person to whom it relates on his leaving the factory for other employ, and on demand of such parent or guardian and on receipt of the cost of the certificate, if such cost has been paid by the occupier.

12. Every occupier of a factory shall keep a monthly register in Form D attached to these rules, and no such register shall be destroyed or removed from the factory without the written permission of the magistrate of the district.

13. Notice in writing of all accidents resulting in death or from which the injury is evidently so severe that there is no reasonable hope that the injured person will be able to return to his work within 48 hours shall be given on the day on which the accident occurs. Notice of accidents of a less severe character, but which, nevertheless, prevent the person injured from returning to his work within 48 hours of their occurrence, shall be given immediately on the expiry of the 48 hours' interval allowed by Section 13 of the Act. All notices of accidents shall be in Form E, and shall contain the name of the person or persons injured, and full information as to the nature and cause of the accident, and shall be sent by special messenger to the magistrate of the district and to the nearest police-station. A copy of the notice shall be sent by post to the provincial inspector at his headquarters, Calcutta.

 14. Every

14. Every order for the fencing of any part of the machinery or mill-gearing of a factory which the district magistrate or provincial inspector may pass under Section 12 (*e*) of the Act shall state clearly what is required, so that the said machinery or gearing may be securely fenced, and shall specify a reasonable time within which what is required to be done shall be completed, and it shall further give notice that if it shall not be so completed, the person responsible for the breach of the order will be prosecuted under Section 15 of the Act.

15. Every occupier of a factory shall set up and maintain, in a conspicuous place in the factory, a printed or written notice, in English and the vernacular, of the daily working hours of the factory, in Form F below.

16. A peals from the orders of inspectors under the Act shall lie to the Commissioner of the division in which the factory is situate.

17. Appeals should be in the form of a memorandum of appeal, similar to that contained in the fourth schedule to the Civil Procedure Code, No. 173, and the stamp fee for such appeal should be regulated by Article 11, Schedule II. of the Court Fees Act.

18. If the order of an inspector is set aside or modified in appeal, the inspector, shall, as early as possible, deliver to the occupant of the factory such amended order as may be in conformity with the orders of the Commissioner.

19. The matters which medical inspectors should enquire into mainly are—

(1) Cases in which children under the authorised age (9 years) are employed in factories;

(2) The observance of the sanitary rules issued under Section 2, Sub-section (1), Clauses (*b*) and (*c*).

Their reports should give the information required by the questions in Appendix I. Factories must be inspected once a quarter; the visits should be made unexpectedly.

20. In every factory a supply of pure potable water from one or other of the following sources shall be provided:—

(*a*) from a general municipal water service;

(*b*) from one or more wells so situated as not to be liable to be polluted or contaminated with organic matter or other impurities.

21. When taps are not used, a suitable establishment must be maintained for the drawing, protection, and distribution of the water.

22. Proper arrangements must be made for maintaining, in drained and cleanly condition, the area around the spot set apart for the distribution of the water.

23. Every occupier of a factory shall, on every day on which work is carried on in the factory he occupies, have available at the said factory for the use of the persons employed therein, free of cost to them, a water supply consisting of at least twice as many gallons of water as there are persons employed in the factory. Of the whole supply at least as many gallons as there are persons employed in the factory shall be fit for potable purposes, and the remainder shall be fit for purposes of washing.

24. All the inside walls of the rooms of every factory, and all the ceilings, or tops of such rooms (whether such walls, ceilings, or tops be plastered or not), and all the passages and staircases of every factory, if they had not been painted with oil or varnished once at least within seven years, shall be lime-washed by the occupier of the factory once at least within every 14 months, to date from the period when last lime-washed; and if they have been so painted or varnished shall be washed by the said occupier with hot water and soap once at least within every 14 months, to date from the period when last washed.

25. The

25. The floors of factories shall be swept at least once a week, or oftener if to do so is necessary to maintain them in a cleanly condition.

26. For every factory adequate latrine accommodation shall be provided in part of the grounds detached from any other factory buildings. In no case shall there be less than one latrine seat for every 50 persons employed.

27. Whenever women are employed, separate latrines, properly screened off from observation and secluded from latrines for the males, shall be provided for women.

28. When any general system of underground sewerage is in force in a municipality, all factory latrines and urinals within the municipality shall be connected with the sewerage system.

29. When no underground sewerage system exists, the dry-earth system, with separate vessels for solid and liquid excreta, must be adopted, and satisfactory arrangements must be maintained for the regular removal and disposal of excreta.

30. All drains carrying waste or sullage water shall be constructed in masonry or other impermeable material, and shall be regularly flushed and connected with some recognised drainage line.

31. The compound surrounding every factory shall be maintained in a strictly sanitary and cleanly condition.

32. A legible copy of these rules, with a translation thereof in the vernacular of the district in which the factory is situated, shall be kept hanging in a conspicuous place in each factory.

33. If the copy become defaced or illegible, a fresh copy must be purchased. Copies of these rules and of the Factory Act can be obtained at a price of five annas each, either in English or vernacular, from the Government Press, Allahabad.

FORM A.

REGISTER OF FACTORIES.

_____ *District.* _____ *Division.*

Serial Number.	Town, thána, or other Local Division in which Factory is situated.	Name or Description of Factory.	Nature of Business carried on.	Name of Occupier.	Number of Persons ordinarily Employed.				Dates of Inspection during the Year 18 .
					Adults.		Children.		
					Men.	Women.	Male.	Female.	

[*N.B.*—This register should be re-written at the commencement of each calendar year.]

FORM B.

REGISTER OF INSPECTIONS OF FACTORIES.

_____ *District.* _____ *Division.*

Number of Factory in Register A.	Name or Description of Factory.	Name of Occupier.	Date of Inspection.	Number of Persons at Work on Date of Inspection.			
				Adults.		Children.	
				Men.	Women.	Male.	Female.

REMARKS AND ORDERS.

1. Condition of fencing.
2. Supply of drinking water.
3. Sanitary arrangements.
4. Whether returns are submitted in due time.
5. Whether registers are duly kept.
6. Age of children.
7. Other remarks.

FORM C.

No._____.

Dated the____ day of_____

Name of person examined_____

_____

Son of_____ }
Daughter of_____ }

Residing at_____

Name and locality of factory at which to be employed_____

_____

Age certified_____

(Signed)
Certifying Surgeon.

FORM C.

(*Under Rule* 12 *of the Rules made under Section* 18 *of the Indian Factories Act*, 1881.)

CERTIFICATE under Section 5 of the Indian Factories Act, 1881.

No._____.

Dated the____day of_____18 .

I HEREBY certify that I have this day examined—

(Name)_____

son of_____ }
daughter of_____ }

residing at_____

who is $\frac{\text{employed}}{\text{desirous of being employed}}$ in the $\frac{\quad}{\text{(state name and locality of factory)}}$ and that his age, as nearly as it can be ascertained from my examination, is years.

(Signed)
Certifying Surgeon.

FORM D.

Monthly Factory Register of Children admitted to employment in _____

Name and locality of Factory _____.

Serial Number.	Name of Child.	Sex.	Name of Parent or Guardian.	Parent's Residence.	Age on Admission as given by Parent or certified by Certifying Surgeon.	Nature of Employment.	Date of First Admission.	Name of Certifying Surgeon (if any), and Number and Date of his Certificate.
1	2	3	4	5	6	7	8	9

FORM E.

(Under Rule 13 of the Rules made under Section 18 of the Indian Factories Act, XV. of 1881, as amended by Section 16 of Act XI. of 1891.)

Form of Notice of Accidents occurring in a Factory.

To

SIR,

I, , beg hereby to give notice, under Section 13 of the Indian Factories Act, that an accident occurred in the factory of at o'clock this day, causing to the persons mentioned below :—

Name.	Caste.	Sex.	Age.	Nature of Injury.

2. The accident was caused by

3. The injured persons are under treatment by (or have been removed to the hospital).

I have, &c.

Manager.

Dated

FORM F.

Form of Register of Hours of Employment.

HOURS OF COMMENCING AND CLOSING WORK DAILY.									REMARKS.
Commencing Hour.			Intervals of Rest.			Closing Hour.			
Men.	Women.	Children.	Men.	Women.	Children.	Men.	Women.	Children.	

The following notifications of the Government of India are republished:

No. 122.

Government of India, Home Department (Judicial). Dated Calcutta, the 27th January 1892.

NOTIFICATION.

IN exercise of the powers conferred by Section 5 of the Indian Factories Act (XV. of 1881), as amended by Act XI. of 1891, the Governor-General in Council is pleased to prescribe a fee of four annas as the fee payable to a certifying surgeon by a person employed, or desirous of being employed, in a factory for examining him and granting him a certificate in accordance with the provisions of that section.

No. 428.

Government of India, Home Department (Judicial). Dated Calcutta, the 25th March 1892.

NOTIFICATION.

IN exercise of the power conferred by clause (2), Section 18, of the Indian Factories Act, 1881, as amended by Act XI. of 1891, the Governor-General in Council has been pleased to make the following rule:

Every occupier of a factory shall furnish to the magistrate of the district or, if the factory is situate within the limits of a presidency town, to the Special Inspector of Factories, or other officer designated in this behalf by the Local Government, the undermentioned returns on or before the dates specified against each:

I. On

I. On or before the 15th July and the 15th January, respectively, a half-yearly return relating to the first and second half of each calendar year in the following form :

Name and situation of Factory.	Name of owner or occupier.	Name of manager.	Nature of industry.	Nature and amount of moving power.	Average daily number of operatives employed.				Whether the factory is worked by shifts or stoppages. If the latter, the hour and extent of daily stoppage.	Whether there is a general holiday on Sunday or on varying week days, or whether the factory has been exempted from the rule as to Sunday labour, under Section 5 B (1), Clause (c) of the Act.	Remarks.
					Adults.		Children.				
					Male.	Female.	Male.	Female.			

N.B.—The average daily number of children is to be taken from the register of children kept in the factory.

II. On or before the 15th January of each year an annual return in the following form regarding measurements and space :—

Name and situation of Factory.	Name of occupier.	Measurements and cubical contents of each room in the Factory.	Area of the floor space of any room shown in the preceding column occupied by machinery or other fixtures.	Remarks.

III. Before the end of each calendar month a return giving notice of all the days on which the factory will be closed during the ensuing month.

APPENDIX I.

Name of factory_____

Date of inspection_____

1. Number of persons at work on date of inspection:

Adults - - - - - - - - -	Male.	
	Female.	
Children - - - - - - - - -	Male.	
	Female.	

2. Names of children, if any, who in the opinion of the inspector are under nine.

3. Names of any children, if any, under 14 who are not entered in register of children (Form D.).

4. Have you inspected the file of certificates kept by the occupier of the factory under Rule 13 of the rules of 1882? Is it in order?

5. How many certificates have you tested by personal examination of the children to whom they refer?

6. Is the notice required by Section 10, Clause 1 of the Act, set up in a conspicuous place in the factory?

7. Are the intervals of rest prescribed by Section 6, Sub-section (3), and Section 7, Sub-section (4), and detailed in the notice, duly observed?

8. From what source (*a*) is the drinking water, (*b*) the washing water, supplied?

9. Is the supply in each case equal to that prescribed by rule?——

10. Is the water pure?

11. Is the drinking water properly protected from pollution, and are the arrangements prescribed by Rules 2, 3, and 4 properly maintained?

12. When were the ceilings, walls, passages and staircases last lime-washed?

13. Are they in need of a fresh wash?

14. Is the factory generally in a cleanly condition?

15. Is there adequate latrine accommodation?

16. How many seats are there—

(*a*) in the latrine for men;
(*b*) in the latrine for women?

17. If there is a system of underground sewerage; are the latrines and urinals connected with it?

18. Is the dry earth system adopted, and what are the arrangements for the removal and disposal of the excreta?

19. On the date of inspection were the latrines in a cleanly condition?

20. Are all the drains carrying waste or sullage water constructed in masonry or other impermeable material?

21. Are they connected with some recognised drainage line?

22. Are the arrangements for flushing them adequate?

23. Is the compound kept in a strictly sanitary and cleanly condition?

24. Can you detect any defect in ventilation which would cause an accumulation of gasses, vapours, dust or other impurities whereby injury to health is likely to arise?

25. What is the general health of the operatives, especially of the women and children?

26. General remarks.

By order, &c.
J. Woodburn,
Chief Secretary to Government, North-Western Provinces and Oudh.

Nos. 1201 to 1257, III.—301 B-178.

COPY forwarded to all Commissioners of Divisions and District Officers, North-W stern Provinces and Oudh, for information and guidance.

No. 1258.—III. 301 B-179.

Copy forwarded to Mr. *C. A. Walsh*, Special Inspector of Factories, North-Western Provinces and Oudh, for information and guidance.

No. 1259.—III. 301 B 180.

Copy also forwarded to the Secretary, Upper India Chamber of Commerce, Cawnpore, for information, with reference to correspondence ending with his letter, dated 29th March 1893.

No. 1260.—III. 301 B-181.

Copy also forwarded to the Inspector General of Civil Hospitals, North-Western Provinces and Oudh, for information and communication to Civil Surgeons.

By order &c.,
F. E. Taylor,
Under Secretary to Government, North-Western Provinces and Oudh.

No. 1396.

From *R. E. Younghusband*, Esq., Officiating Junior Secretary to Government, Punjab and its Dependencies, to the Secretary to the Government of India Home Department, dated 12th December 1893.

(Home.—Judicial.)

Sir,

WITH reference to your letters noted on the margin, I am directed to forward, for the information of the Government of India, a copy of the Report on the working of the Indian Factories Act in the Punjab during the year 1892, together with a copy of Notifications Nos. 969 and 970, dated 22nd October 1892 respectively, publishing rules for the better control of factories in the Punjab.

No. 11 Judicial, dated 30th June 1892. 865

No. 14 Judicial, dated 4th July 1893. 754

I have, &c.
(signed) *R. E. Younghusband*,
Officiating Junior Secretary to Government, Punjab.

REPORT on the Working of the Factories Act in the Punjab during the Year 1892.

THERE were 35 factories in the Punjab during the year under report which came within the scope of the Act. Of these 34 were worked with steam power, and there was one in which steam power was not used.

The number of factories inspected during the year was 18. Of the factories inspected six were inspected once only, 10 twice, one three times, and one more than three times. The rules, which require at least two inspections of each factory to be made in the year, were not published till near the end of 1892. The attention of district magistrates and civil surgeons will be drawn to their duties in regard to the inspection of factories It appears from the reports received that some of the factories which are not recorded as having been formally inspected were visited by inspecting officers.

Delhi District.—There are eight factories in the Delhi district which came within the scope of the Act. Each of these was inspected twice during the year.

At his inspection of the Delhi Cloth and General Mills the inspector found that the cog-wheels were not sufficiently protected, and that the rope bands passing round the driving wheel also needed protection by a railing. It was also observed that the notice required under Section 10 of the Act had not been set up, and that the platform of the drinking well needed to be protected. These defects were pointed out to the manager of the mills by the inspector, who fixed a date by which his orders should be complied with. When the second inspection was made by the joint inspector it was found that all the orders of the inspector had been fully carried out.

Delhi Cotton Mills.—It was found on inspection that the rope pulleys had not been protected by a hand rail, and that the axles of the wheels needed a box cover. The notice under Section 10 had also not been exhibited, and the drinking well needed a protecting platform. The inspector's orders to remedy these defects were fully carried out before the date of the second inspection.

Delhi and Northern Flour Mills.—In these mills the inspector noticed that the sunk race that holds the driving ropes and the vertical bevelled cogs of two of the sifting machines needed proper protection, and that the belting of the rollers on the first floor required a box cover to the height of about one foot. The orders given to remedy these defects were promptly carried out.

Iron Foundry, Chaori Bazar.—In this factory the gearing of the planing machine required protection, and a small shaft was needed to work the boring machine. The inspector's orders were duly carried out by the prescribed date.

Delhi Iron Works, Chariwala Bazar.—In his inspection of these works the district inspector directed that the children employed should be sent to the civil surgeon for certification, this matter not having been attended to by the management, and the order was at once complied with.

In the remaining mills in the Delhi district the inspector found that the machinery was sufficiently well protected and that due attention had been paid to the matters of sanitation and water supply.

Gurgaon District.—It appears from Statement I. that the cotton press at Rewari was inspected once during the year by the district magistrate; but the deputy commissioner makes no mention of this in his report, and does not say what was the result of his inspection.

Mooltan District.—In the Mooltan district there were three factories working in the year 1892 which came within the scope of the Act. None of these were inspected till after the close of the year under report. A general résumé of the inspections, the results of which were on the whole satisfactory, will be given in the report for 1893.

Montgomery District.—The cotton factory at Okara was inspected on the 30th of November 1892. Eighty-four operatives were employed at the time. Certain defects were discovered, and the inspector passed the following orders to remedy them:—

(1) For the fencing by a wall or woodwork of that part of the machinery called the "Opener."

(2) For the provision of separate latrine accommodation for females.

(3) For the closure of the factory on Sundays or grant of a whole day as a holiday on one of three days preceding or succeeding the Sunday.

(4) Approving the employment of operatives by shifts at three shifts daily for eight hours a shift to prevent violation of Section 6 (2) of the Act.

(5) For the posting of a written notice showing the working hours and hours for relaxation in accordance with Section 10 (1) of the Act.

A copy of these orders was communicated to the managers of the factory, and it is understood that the defects pointed out have been remedied.

Lahore

Lahore District.—Besides the large North-Western Railway workshops the only factories in the Lahore district during the year were the Punjab Oil and Flour Mills and Messrs. Robson & Co.'s brass and iron foundry, the latter of which has been closed since Mr. Robson's death on the 30th November 1892. It is to be regretted that none of the factories were inspected during the year, but as the factories are, with these exceptions, all State railway workshops, there is reason to believe that all proper precautions are taken and that the arrangements are satisfactory.

Amritsar District.—The Deputy Commissioner reports that the Government forage factory is under competent management and is periodically inspected by a Government mechanic. The only other factories in the Amritsar district are the Amritsar Manufactory Company's factory and the Cotton Ginning Company's factory. Regular inspections of these factories were not made during the year, but it appears from the Deputy Commissioner's report that he has since inspected them and passed such orders as he found necessary.

Gurdáspur District.—There are two factories in the Gurdáspur district, viz., the New Egerton Woollen Mills at Dhárìwál and the Punjab Sugar Works Factory at Sujánpur. The former was inspected twice during the year and the latter once. In both cases the results of the inspection were most satisfactory, and everything was found in good order. In the Punjáb Sugar Works the notice required by Section 10 was not hung up; the manager was instructed to remedy this defect.

Rawalpindi District.—There are six factories in the Rawálpindi district to which the Act applies. Steam power is employed in five of these, while manual power is used in one, viz., Bùta Singh's Tent Manufactory. The two breweries were inspected by the inspector. All the factories in the district were inspected by the joint inspector. The Deputy Commissioner reports that he found the sanitary arrangements and ventilation of the two breweries all that could be desired, and that the joint inspector's reports were also satisfactory.

Sanitary conditions of and sanitary arrangements on factories.

2. The sanitary condition of factories and sanitary arrangements are reported to be generally satisfactory. In two or three factories in Delhi it was found that insufficient attention had been paid to the sanitary requirements of the mill hands. The Civil Surgeon's suggestions in this matter were promptly attended to. It was also found that there was no separate latrine accommodation for females at the Okára factory in the Montgomery district, and necessary orders were issued on this point.

The general health of the operatives.

3. The health of operatives employed in factories in the Punjab was generally good. In the Delhi, Mooltan, and Gurdáspur districts they suffered a good deal from fever, but this was due rather to the general unhealthiness which prevailed throughout these pistricts during the past autumn than to any sanitary defects in the factories in which they were employed. Malarious fevers were prevalent throughout the province during the autumn months to an unusual extent, and the death-rate from fevers alone in the Punjab during the year was over 34 per thousand. In the Gurdáspur district especially the health of the operatives was very poor, 40 per cent. in one factory being off duty owing to fever. The health of the women and children was generally good.

Wages and general condition of operatives.

4. In the Delhi district no complaints on the part of the operatives in regard to their wages or the treatment they receive was made. The Deputy Commissioner reports that they are well paid and appear to be quite satisfied with their lot.

In the cotton press at Rewári in the Gurgaon district the following wages are said to be paid :—

For miscellaneous work.

	Rs.	a.	p.	
Able-bodied male labourers - -	–	3	–	each per diem.
Women labourers - - - -	–	2	–	ditto.
Children - - - - -	–	1	6	ditto.

For carrying cotton to the press.

	Rs.	a.	p.	
For 100 bales - - - -	5	5	–	or 10 pies per bale.

Male labourers are exclusively employed on this work.

For packing bales.

	Rs.	a.	p.	
For 100 bales - - - -	4	12	–	or 9 pies per bale.

Male labourers are exclusively employed on this work.

The Commissioner of the Lahore division makes the following remarks on this subject:—"Wages paid to operatives seem to be good throughout the division, and even if they receive slightly less than the ordinary wages of other labourers of their class (as in Mooltan), they prefer factory work, as their employment is continuous, whereas ordinary labourers can only get work when their is a demand for their labour.

"In the Lahore district the greater portion of factory operatives are artisans, and they are reported by the Deputy Commissioner to receive better wages than can be had in the outside market. One advantage the factory employé has over the rural labourer is that the former is paid cash either daily or at regular intervals; the rural labourer, on the other hand, receives his wages in kind, generally grain, and this at the termination of each harvest."

In the Mooltan district the wages paid to mill hands are reported to be four annas a day to men, three annas to women, and two annas to children.

Wages on an average at the rate of three annas a day are paid to the operatives in the Cotton Ginning Factory at Okára, exclusive of those employed on special work, who are paid higher.

In the New Egerton Woollen Mills, Dháriwál, wages vary from 5 rupees to 60 rupees per mensem, and in the Sugar Works at Sujánpur from 4 rupees to 50 rupees per memsem. The condition of operatives in the mills is good, as they have continuous employment and a fixed income and reside conveniently close to their work. Labourers of other classes depend upon the demand for labour which at times slackens and leaves them unemployed. In the Sugar Works Factory the condition of the operatives is not so good as at the Dháriwál Woollen Mills, since the former only works four months in the year.

The Deputy Commissioner of Ráwalpindi makes the following remarks regarding wages in his district:—"The general condition of operatives was good, but wages are invariably high. This is due to the fact that skilled labour has to be imported, and the price of articles of food and clothing is high. Therefore to attract skilled labour liberal wages have to be offered. Zamíndárs work as coolies only and generally demand high wages of necessity."

Employment of women and children.

5. In the Delhi district the employment of women and children is not very largely resorted to, their being only 31 women and 68 children employed out of a total number of 979 employés.

In the Cotton Press at Rewári women and children are more largely employed, there being 62 of the former and 26 of the latter employed for 40 days in the year for miscellaneous work.

The number of women and children employed in the factories of the Lahore division as compared with men are given in the following table:—

DISTRICT.	Number of Men Employed.	Number of Women Employed.	Number of Children Employed.	TOTAL.
Mooltan - - - -	63	56	4	123
Montgomery - - -	35	38	- - -	73
Lahore - - - -	2,978	4	7	2,989
Armritsar - - - -	99	29	- - -	128
Gurdáspur - - - -	561	70	37	668
TOTAL - -	3,736	197	48	3,981

This table shows that women are more largely employed in the Gurdáspur than in any other district in the Lahore division. In Lahore the great preponderance

ponderance of male operatives is due to the large number of persons engaged in the railway workshops, for which female labour is not suitable. Only 48 children were employed in the whole division, and of these 37 were employed in factories in the Gurdáspur district. No girls were employed during the year.

No women are employed in the factories in the Ráwalpindi division, but it appears that a daily average of 17 boys were employed during the year in Búta Singh's tent manufactory. The Civil Surgeon, however, found none at work when he inspected the workshop.

In most of the district reports the work of the certifying surgeon has not been noticed. The attention of Deputy Commissioners and of Civil Surgeons will be drawn to the provisions of Section 5 of the Indian Factories Act and to the orders of this Government that civil surgeons are primarily responsible for detecting the employment of children under the authorised age. The Deputy Commisioner of Delhi reports that all the children employed in the factories in that district have been duly certified.

The fencing of machinery and mill gearing.

6. As above stated, the fencing of the machinery in some of the factories in the Delhi district was found to be defective, but the defects were remedied after the necessary orders had been issued.

All machinery and mill gearing in the factories in the Ráwalpindi division is reported to be properly fenced.

The majority of the machinery at the factories in the Mooltan district is not of such a kind as to involve danger to those using it. The cotton ginning machines are so enclosed in frames that no danger is incurred by those employed in inserting cotton into them.

The machinery in the cotton mill at Okára was not properly fenced, and the necessary orders were issued to the managers to remedy the defect.

The machinery of the Government Forage Factory and the Amritsar Manufacturing Company is properly fenced, but the machinery of the Cotton Ginning Factory at Amritsar was not properly protected. Steps have been taken to have this done.

The dangerous parts of the machinery in the factories in the Gurdáspur district are properly fenced.

Accidents.

7. There were 20 accidents during the year under report, of which 2 were fatal, 6 serious, and 12 minor. The two fatal accidents occurred in the woollen mills at Dháriwál. The inspector reports that they were caused through the men disregarding the existing rules of working of the factory. One workman fell into a hot dye vat, and another in endeavouring to place a leather belt on a pulley while in motion had his dhoti entangled with the shaft, which whipped him round, resulting in a compound fracture of his left arm and other injuries. Both accidents ended fatally. Of the serious accidents two occurred in the two cotton mills at Delhi. These occurred before the date of the Deputy Commissioner's inspection and before the machinery was properly protected. Four serious accidents and ten minor ones occurred in the North-Western Railway workshops at Lahore. The Deputy Commissioner reports that in most cases they were directly due to the carelessness of the men injured.

Prosecutions.

8. There were no prosecutions under the Act during the year under report.

FORM I.—STATEMENT to accompany Annual District Report on the working of the Factories Act.

DELHI DISTRICT.

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives employed.							
					Adults.			Children.				
					Males.	Females.	Total.	Males.	Females.	Total.	Total, Columns 8 and 11.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
I.	Delhi Cloth and General Mills, Rohtak-road.	Spinning and weaving.	Steam	600 H. P.	374	17	391	18	–	18	409	1
II.	Delhi Cotton Mills, Sabzimandi	Cotton spinning	ditto	650 H. P.	242	14	256	34	–	34	290	2
III.	Delhi and Northern India Flour Mills, Boulevarde-road.	Flour milling	ditto	60 H. P.	39	–	39	–	–	–	39	3
IV.	New Mofussil Company, Pahari Dhiraj.	Cotton pressing	ditto	20 H. P.	50	–	50	–	–	–	50	4
V.	Imperial Iron Workshop, Ajmere Gate.	Casting and turning.	ditto	6 and 8 H. P.	50	–	50	–	–	–	50	5
VI.	Delhi Iron Works, Churiwala Bazár.	Iron works. Manufacture of sugar-cane presses.	ditto	12 H. P.	60	–	60	8	–	8	68	6
VII.	Casting Iron Work Factory, Ajmere Gate.	ditto	ditto	10 H. P.	40	–	40	4	–	4	44	7
VIII.	Iron Foundry, Chaori Bazár	ditto	ditto	20 H. P.	25	–	25	4	–	4	29	8
				Total	880	31	911	68	–	68	959	

GURGAON DISTRICT.

1	Cotton Press, Rewári	Cottón press	Steam		Temporary for 40 days 64 Permanent 8	61	125	26		26	151	1
				Total	64	61	125	26		26	151	

MOOLTAN DISTRICT.

1	Seth Sukh Dev Bux & Co., Mooltan City.	Cotton	Steam	20 H. P.	15	31	46	–	–	–	46	1
2	Lála Chiman Dás, Tek Chand & Co., at Taraf Daira, Mooltan City.	ditto	ditto	20 H. P.	22	17	39	–	–	–	39	2
3	Bhái Gurdit Singh, Mooltan Cantonment.	Cotton, and grinding corn, and wood cutting.	ditto	12 and 18 H. P.	26	8	34	4	–	4	38	3
				Total	63	56	119	4	–	4	123	

MONTGOMERY DISTRICT.

1	Cotton Factory, Okára	Cotton ginning	Steam	35 H. P.	35	38	73	–	–	–	73	1
				Total	35	38	73	–	–	–	73	

FORM I.—STATEMENT to accompany Annual District Report on the working of the Factories Act.

DELHI DISTRICT.

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers. (if any).	Total.	
	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	
1	Stop 12 noon to 1 p.m.	Sunday holiday	-	-	-	-	1	-	1	-	2	
2	ditto	ditto	-	-	-	-	1	-	1	-	2	
3	No regular stoppages	ditto	-	2	2	4	1	-	1	-	2	
4	ditto	ditto	-	-	-	-	1	-	1	-	2	Abstract (District Totals). Total Number of Factories. Cotton mills - - - - 2 Flour mill - - - - 1 Cotton press - - - - 1 Iron works or foundries - 4 Total - - - 8
5	Stop one hour	ditto	-	-	-	-	1	-	1	-	2	
6	As in No. 1	No holiday. Men paid daily.	-	-	-	-	1	-	1	-	2	
7	ditto	No Sunday closing. Native holidays granted.	-	-	-	-	1	-	1	-	2	Number of factories inspected twice during the year - 8 Total - - - 8
8	ditto	ditto	-	-	-	-	1	-	1	-	2	
			-	2	2	-	8	-	8	-	16	

GURGAON DISTRICT.

1			-	-	-	-	1	-	-	-	1	Abstract (District Totals). Total Number of Factories. Cotton press - - - - 1 Total - - - 1 Number of factories inspected once during the year - - 1 Total - - - 1
			-	-	-	-	1	-	-	-	1	

MOOLTAN DISTRICT.

1	Same labourers work from 6 a.m. to 12 a.m., and 1 p.m. to 6 p.m.	One day in the week, viz., Sunday.	-	-	-	-	-	-	-	-	-	Abstract (District Totals). Total Number of Factories. Cotton mills - - - - 3 Total - - - 3 Number of factories inspected during the year - - Nil.
2	Same labourers work from 6 a.m. to 12 a.m., and 1 p.m. to 7 p.m.	ditto	-	-	-	-	-	-	-	-	-	
3	ditto	ditto	-	-	-	-	-	-	-	-	-	
			-	-	-	-	-	-	-	-	-	

MONTGOMERY DISTRICT.

1	By midday stoppages, and since 9th December 1892 by shifts.	Sunday is observed as a general holiday.	-	-	-	-	1	-	-	-	1	Abstract (District Totals). Total Number of Factories. Cotton cleaning factory - - 1 Total - - - 1 Number of factories inspected once during the year - - 1 Total - - - 1
			-	-	-	-	1	-	-	-	1	

FORM I.—STATEMENT to accompany Annual District Report on the working of the Factories Act—*continued.*

LAHORE DISTRICT.

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives employed.							
					Adults.			Children.			Total, Columns 8 and 11.	
					Males.	Females.	Total.	Males.	Females.	Total.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
1	Locomotive Works, Lahore Turning Shop (North Western Railway).	Turning, planing, shaping, slathing, drilling, &c., locomotive and other machinery.	Steam and manual	95 H. P.	250	–	250	–	–	–	250	1
2	Carriage Shops, Lahore (North Western Railway).	Carriage and wagon building.	Steam	48 H. P.	1,395	–	1,395	–	–	–	1,395	
3	Locomotive Works, Lahore, Blacksmith Shop (North Western Railway).	General blacksmiths' work.	ditto	20 H. P.	220	–	220	–	–	–	220	3
4	Locomotive Works, Lahore Boiler Shop (North Western Railway).	Erecting and repairing locomotive and other boilers.	ditto	30 H. P.	204	–	204	–	–	–	204	4
5	Locomotive Works, Lahore, Pattern Shop (North-Western Railway).	Pattern making	Steam and manual	—	27	–	27	–	–	–	27	5
6	Locomotive Works, Lahore, Painting, File-cuttng, Fitting (North Western Railway).	Fitting, erecting, repairing and painting locomotive and other engines.	ditto	—	365	–	365	7	–	7	372	6
7	Locomotive Works, Lahore, Iron and Brass Foundry (North Western Railway).	Iron and brass moulding.	ditto	—	121	–	121	–	–	–	121	7
8	Locomotive Works, Lahore (North-Western Railway).	Dispatching and receiving of stores, locomotive yard.	ditto	—	95	–	95	–	–	–	95	8
9	Locomotive Millwright Shop, Lahore (North Western Railway).	Repairs to shop engines and machinery.	ditto	—	62	–	62	–	–	–	62	9
10	Punjab Oil and Flour Mills, Lahore.	Oil and flour mills	Steam	20 H. P.	79	4	83	–	–	–	83	10
11	Lahore Engineering Works, Messrs. Robson & Co.	Engineering brass and iron foundry.	ditto	14 H. P.	160	–	160	–	–	–	160	11
				Total	2,798	4	2,982	7	–	7	2,989	

FORM I.—STATEMENT to accompany Annual District Report on the working of the Factories Act—*continued.*

LAHORE DISTRICT.

	Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (*c*), or (4) under Section 5 B (2) (*d*) of the Act, or (5) otherwise worked.	Total Accidents in Railway Workshops.				Number of Inspections held during the Year.					REMARKS.
			Fatal.	Serious.	Minor.	Total.	By Magistrates.	By Special Inspector of Factories.	By Medical Officers.	By other Officers (if any).	Total.	
	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	
1	Worked by regular daily shifts; one hour for breakfast between 10 and 12.30.	Sunday is a general holiday, but the shops work extra time in urgent cases for repairs of machinery, &c.	–	4	10	14	–	–	–	–	–	Abstract (District Totals). Total Number of Factories. Flour mills - - - - 1 Other Factories - - - 10 Total - - - 11 Inspections - - - - Nil.
2	By stoppages; January 11.30 to 12.30; February to March, 11 to 12; March to April, 10.30 to 11.30; April to June, 10 to 11.	Sunday is a general holiday.	*Vide* above.		–	–	–	–	–	–	–	
3	Worked by regular daily shifts; one hour for breakfast between 10 and 12.30.	General holiday on Sunday.	*Vide* above.		–	–	–	–	–	–	–	
4	- ditto - - -	- ditto - - - -	*Vide* above.		–	–	–	–	–	–	–	
5	- ditto - - -	Sunday is a general holiday.	*Vide* above.		–	–	–	–	–	–	–	
6	- ditto - - -	Sunday is a general holiday; but in the event of any special work on engines, &c., men are employed to do work as overtime.	*Vide* above.		–	–	–	–	–	–	–	
7	- ditto - - -	Sunday is a general holiday.	*Vide* above.		–	–	–	–	–	–	–	
8	- ditto - - -	- ditto - - - -	*Vide* above.		–	–	–	–	–	–	–	
9	- ditto - - -	Sunday is a general holiday, but in the event of shop engines and machine requiring special repairs, men are employed to do the work, as it cannot be done otherwise.	*Vide* above.		–	–	–	–	–	–	–	
10	Twelve-hours shift with one-hour stoppage in each shift.	General holiday on Sundays, or one other week-day.	–	–	–	–	–	–	–	–	–	
11	Commencing at 6 a.m.; stop at 11.30 for food; close at 3 p.m.	Sunday is a general holiday.	–	–	–	–	–	–	–	–	–	Closed from date of death of Mr Robson, which took place on 30th November 1892. Premises taken over by mortgagees (the Agra Bank); work not renewed.
	- - - - -	- - - - -	–	4	10	14	–	–	–	–	–	

FORM I.—STATEMENT to accompany Annual District Report on the working of the Factories Act—*continued.*

AMRITSAR DISTRICT.

Serial Number of Factory.	Name (and Locality) of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives employed.							
					Adults.			Children.			Total Columns 8 and 11.	
					Males.	Females.	Total.	Males.	Females.	Total.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
1	Government Forage Factory near Roman Catholic Chapel.	Forage pressing -	Steam - - -	25 H. P. - -	71	–	71	–	–	–	71	1
2	Amritsar Manufactory Company	Ginning cotton -	ditto - - -	30 H. P. - -	13	17	30	–	–	–	30	2
3	Cotton Ginning Factory - -	- ditto - -	ditto - - -	15 H. P. - -	15	12	27	–	–	–	27	3
				Total - - -	99	19	128	–	–	–	128	

GURDASPUR DISTRICT.

1	The New Egerton Woollen Mills Co., Dháriwál.	Woollen manufacture.	Steam - - -	240 H. P. -	492	60	552	30	–	30	582	1
2	Sugar Works, Sujanpur - -	Sugar and spirits -	ditto - - -	Not reported -	69	10	79	7	–	7	86	2
				Total - - -	561	70	631	37	–	37	668	

RAWALPINDI DISTRICT.

1	Murree Brewery Co., Limited, Goragali.	Brewing and malting.	Steam - - -	10 H. P. - -	220	–	220	–	–	–	220	1
2	Murree Brewery Company, Limited, Ráwalpindi.	Brewing and ice making.	ditto - - -	Two 12 H. P. and one 25 H. P.	210	–	210	–	–	–	210	2
3	Búta Singh's Tent Manufactory at Ráwalpindi City.	Tent making and manufacture of camp furniture.	Manual - - -	- - -	90	–	90	–	–	–	90	3
4	North Western Railway Workshops, Ráwalpindi.	Repairs of engines and vehicles.	Steam - - -	One 50 H. P. and one 20 H. P.	840	–	840	–	–	–	840	4
5	Commissariat Steam Flour Mill and Bakery.	Flour and bread making.	ditto - - -	One 25 H. P. -	90	–	90	–	–	–	90	5
6	Executive Engineer, Military Works, Workshops at Ráwalpindi.	Public works connected with military works.	ditto - - -	Two 12 H. P. -	160	–	160	17	–	17	177	6
				Total - - -	1,610	–	1,610	17	–	17	1,627	

FORM I.—STATEMENT to accompany Annual District Report on the working of the Factories Act—*continued.*

AMRITSAR DISTRICT.

	13. Whether the Factory is worked mainly (1) by Shifts, or (2) by Mid-day Stoppages, or (3) otherwise.	14. Whether a General Holiday is ordinarily given (1) on Sundays, or (2) on varying Week-days, or (3) whether Factory exempted under Section 5 B (2) (c), or (4) under Section 5 B (2) (d) of the Act, or (5) otherwise worked.	Number of Accidents reported during the Year. 15. Fatal.	16. Serious.	17. Minor.	18. Total.	Number of Inspections held during the Year. 19. By Magistrates.	20. By Special Inspector of Factories.	21. By Medical Officers.	22. By other officers (if any).	23. Total.	24. REMARKS.
1	Stoppage one hour -	General holiday, Sunday	-	-	-	-	-	-	-	-	-	Abstract (District Totals).
2	By shifts day and night	Once a week to clean engine.	-	-	-	-	-	-	-	-	-	Total Number of Factories. Cotton cleaning - - - 2; Forage press - - - - 1; Total - - - 3
3	Occasionally by shifts; half hour allowed mid-day.	Occasionally closed to clean up.	-	-	-	-	-	-	-	-	-	*Note.* - The Government Forage Factory is periodically inspected by a Government mechanic.
	- - - -	- - - -	-	-	-	-	-	-	-	-	-	

GURDASPUR DISTRICT.

1	By mid-day stoppage -	Holiday allowed on Sundays.	2	-	-	2	2	-	1	-	3	Abstract (District Totals). Total Number of Factories. Woollen mills - - - - 1; Sugar - - - - - 1; Total - - - 2
2	By shifts - - -	Exempted from restrictions of law as to Sunday labour.	-	-	-	-	1	-	-	-	1	Number of Factories inspected. Once during year - - - 1; Twice during year - - - 1; Total - - - 2
	- - - -	- - - -	2	-	-	2	3	-	1	-	4	

RAWALPINDI DISTRICT.

1	In winter there are two shifts in 24 hours. In summer there is no night work. An hour is always given mid-day.	The brewing and malting is exempted from the Sunday clause, but all men leave work at 12 noon, except those in charge of malt house and fermentations in the winter months.	-	-	-	-	1	-	2	-	3	Abstract (District Totals). Total Number of Factories. Breweries - - - - - 2; Flour mills - - - - - 1; Iron works - - - - - 2; Tent manufactories - - - 1; Total - - - 6
2	- ditto - - -	- ditto - - - -	-	-		-	1	-	1	-	2	
3	- - - -	- - - -	-	-	-	-	-	-	1	-	1	
4	Only by mid-day stoppages.	Sundays and gazetted holidays are given.	-	-	6	6	-	-	1	-	1	Number of Factories inspected. Once during the year - - 3; Twice during the year - - 1; Three times during the year - 1; More than three times during the year - - - - 1; Total - - - 6
5	Shifts - - - -	Sunday is given as a holiday in the flour mill only.	-	-	-	-	-	-	1	6	7	
6	Only by mid-day stoppages.	No holiday except on Sunday, and only then when there is no urgent work on hand.	-	-	-	-	-	-	1	-	1	
	- - - -	- - - -	-	-	6	6	2	-	7	6	15	

FORM II.—STATEMENT to accompany Annual Provincial Report on the working of the Factories Act.

NAME of PRESIDENCY or PROVINCE—PUNJAB.

NAME OF DISTRICT.	Number of Factories within the Scope of the Act.																			Number of Factories entered in Columns 2 to 16.			Number of Factories entered in Columns 2 to 16.							Average Daily Number of Operatives employed in the Factories entered in Columns 2 to 16.						Total of Columns 29 and 32.
																							Inspected during the Year.							Adults.			Children.			
	Cotton Mills.	Jute Mills.	Woollen Mills.	Paper Mills.	Breweries.	Flour Mills.	Cotton Cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Iron Works or Factories.	Sugar Works.	Printing Presses.	Tent Manufactories.	Ice Manufactories.	Forage Presses.	——	Other Factories within Scope of Act.	Total of Columns 2 to 15.	In which Steam Power is used.	In which Steam Power is not used.	Total of Columns 17 and 18.	Once only.	Twice (but not Three Times).	Three Times.	More than Three Times.	Total of Columns 20 to 23.	Not inspected during the Year.	Total of Columns 24 and 25.	Males.	Females.	Total.	Males.	Females.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	14(a)	14(b)	14(c)	14(d)	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.
Delhi	2	–	–	–	–	1	–	1	–	–	4	–	–	–	–	–	–	–	8	8	–	8	–	8	–	–	8	–	8	880	31	911	68	–	68	979
Gurgaon	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1	1	–	1	1	–	–	–	1	–	1	64	61	125	26	–	26	151
Mooltan	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	3	–	3	–	–	–	–	–	–	–	63	56	119	4	–	4	123
Montgomery	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	1	–	1	1	–	–	–	1	–	1	35	38	73	–	–	–	73
Lahore	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	10	11	11	–	11	–	–	–	–	–	11	11	2,978	4	2,982	–	7	7	2,989
Amritsar	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	1	–	–	3	3	–	3	*	*	*	*	*	*	*	99	29	128	–	–	–	128
Gurdáspur	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	2	2	–	2	1	1	–	–	2	–	2	561	70	631	37	–	37	668
Ráwalpindi	–	–	–	–	2	1	–	–	–	–	2	–	–	1	–	–	–	–	6	5	1	6	3	1	1	1	6	–	6	1,610	–	1,610	17	–	17	1,627
TOTAL	5	–	1	–	2	3	3	2	–	–	6	1	–	1	–	1	–	10	35	34	1	35	6	10	1	1	18	11	29	6,290	289	6,579	152	7	159	6,738

* The Government Forage Factory, periodically inspected by a Government mechanic.

Name of Presidency or Province—Punjab—continued.

NAME OF DISTRICT.	Number of Factories entered in Columns 2 to 16 Worked mainly by—				Number of Factories entered in Columns 2 to 16.						Number of Accidents during the Year in Factories entered in Columns 2 to 16.				Number of Persons Convicted during the Year in respect of Factories entered in Columns 2 to 16.												REMARKS.
					In which a General Holiday is ordinarily given.		Exempted.								Under Section 15 (1) of the Factories Act, Clauses—										Under Section 15 (2) of the Factories Act.	Total Columns 57 and 58.	
	Shifts or Sets.	Midday Stoppage.	Otherwise.	Total of Columns 34 to 36.	On Sundays.	On varying Week-days.	Under Section 5 B (2) (c).	Under Section 5 B (2) (d).	Worked "otherwise," *i.e.*, not falling under Columns 38 to 41.	Total Columns 38 to 42.	Fatal.	Serious.	Minor.	Total.	*a.*	*b.*	*c.*	*d.*	*e.*	*f.*	*g.*	*h.*	*i.*	Total (*a*) to (*i*).			
	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.
Delhi - - -	-	6	2	8	5	2	-	-	1	8	-	2	2	4	-	-	-	-	-	-	-	1	-	-	-	-	
Gurgaon - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mooltan - - -	-	3	-	3	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Montgomery - -	-	1	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lahore - - -	9	2	-	11	11	-	-	-	-	11	-	4	10	14	-	-	-	-	-	-	-	-	-	-	-	-	
Amritsar - -	1	1	1	3	1	2	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gurdáspur - -	1	1	-	2	1	-	1	-	-	2	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	
Ráwalpindi - -	3	3	-	6	3	3	-	-	-	6	-	-	(*a*)	-	-	-	-	-	-	-	-	-	-	-	-	-	(*a*) A few minor accidents only have occurred.
TOTAL - - -	14	17	3	34	25	7	1	-	1	34	2	6	12	20	-	-	-	-	-	-	-	-	-	-	-	-	

GAZETTE NOTIFICATIONS.—22nd October 1892.

No. 969.—*Notification.*—Under the provisions of Section 18 (1) of Act XV. of 1881 (the Indian Factories Act), as amended by Act XI. of 1891, the honourable the Lieutenant Governor is pleased to make the following rules for the better control of factories situated within the limits of the Punjab and its dependencies, in supersession of the rules published with "Punjab Government Gazette" Notification, No. 998—4660, dated 24th September 1883:—

RULES.

1. The terms "factory," "child," "mill-gearing," and "employed," when used in these rules, shall have the meaning given to them in the Act. "Inspector" means the district magistrate. "Joint inspector" means an inspector appointed by the Lieutenant Governor under Section 3 of the Act.

2. Every joint inspector shall be subordinate to the district magistrate for the carrying out of the Factories Act and rules under it.

3. Each inspector shall keep a register of all factories within his jurisdiction in the form A attached to these rules.

4. On the publication of these rules the inspector shall send, through the post under registered cover, a notice to the occupier of every factory within his jurisdiction intimating his intention of placing such factory upon his register of factories.

5. Any person served with a notice under Rule 4 who considers that his premises do not fall within the definition of a factory given in the Act may, within 15 days of the receipt of such notice, forward to the inspector a statement setting forth his objections to the registration of his premises as a factory. The inspector shall consider and dispose of such objections after making such inquiry as he may deem necessary, and shall make up his register of factories in accordance with the provisions of the Act.

6. The inspector may at any time serve a notice, as provided in Rule 4, upon the occupier of any factory which is not already entered in his register of factories; and the provisions of Rule 5 shall apply to the subsequent proceedings in all such cases.

7. When any premises cease to be occupied as a factory, the occupier may give notice of the fact to the inspector, who shall, if satisfied that the Act is no longer applicable to such premises, remove them from his register of factories.

8. Every factory shall be inspected by the inspector or joint inspector as often as the former may deem sufficient, but not less than twice in each calendar year, and at each inspection the inspecting officer shall examine all registers required to be kept under the Act, and see that all orders respecting the secure fencing of machinery are being duly carried out.

9. The inspector shall keep a register of his inspections of each factory in the form B appended, in which he shall record all orders and remarks made by him on each occasion of his inspection. When a factory is inspected by joint inspector his orders and remarks shall be recorded in the inspector's register.

10. A copy of every entry made under Rule 5, and of every order passed by an inspector or joint inspector under Section 4 (*c*) or Section 12 (*c*) of the Act, shall be furnished without delay to the occupier of the factory concerned.

11. The occupier of a factory shall, if required by the inspector or joint inspector, bring before him on the occasion of any inspection all children and any other persons employed in the factory whom the inspector or joint inspector may wish to see.

12. Every order for the fencing of any part of the machinery or mill-gearing of a factory which an inspector or joint inspector may pass under Section 12 (*c*) of the Act shall state clearly what is required, so that the said machinery or gearing may be securely fenced, and shall specify a reasonable time within which

which what is required to be done shall be completed, and shall further give notice that if it shall not be so completed the persons responsible for the breach of order will be prosecuted under Section 15 of the Act.

13. Appeals against orders passed under Section 12, Clause (*c*), of the Act shall be presented and heard as follows. Such appeals shall be in writing and shall be accompanied by a copy of the order appealed against, and shall be presented within 15 days of the date of the order at the office of the inspector by whom the order appealed against was passed. The inspector shall forward within seven days of its presentation each such appeal to the authority appointed under Section 12 by the Local Government in this behalf, with any remarks or explanations which he may see fit to make. The authority appointed as aforesaid shall, on receipt of the appeal, fix a time and place for hearing it, and shall give due notice of such time and place to the appellant. The appeal shall be heard at the time and place intimated, or at another time and place of which due notice has been given to the appellant.

In computing the period prescribed by this rule the day on which the order complained of was passed, and the time requisite for obtaining a copy of such order, shall be excluded.

13*a*. A copy of every order passed under Section 12 (*c*), or an appeal from such an order, shall forthwith be transmitted to the Local Government by the authority who passed it.

14. Notice shall be given of every accident occurring in a factory, which causes death, on the same day on which the accident occurs. Notice of accidents of a less severe character, but causing bodily injury which prevents the person injured from returning to his work within 48 hours of their occurrence, shall be given immediately on the expiry of the 48 hours during which the person injured is unable to return to his work. Such notices shall be in writing and shall contain full information as to the nature and cause of the accident, and shall be sent by the occupier of the factory, or, in his absence, by his principal agent in the management of such factory, to the inspector within whose jurisdiction such factory is situated.

15. Every occupier of a factory shall, on every day on which work is carried on in the factory he occupies, have available at the said factory for the use of the persons employed therein, free of cost to them, a water supply consisting of at least twice as many gallons of water as there are persons employed in the factory. Of the whole supply, at least as many gallons as there are persons employed in the factory shall be fit for drinking purposes, and the remainder shall be fit for the purpose of washing.

16. The minimum space provided for each person employed in any room of a factory shall be 36 superficial feet, 500 cubic feet, and 10 square feet of lateral ventilating opening. Provided that, in cases in which lateral ventilation cannot be contrived on account of the nature of the industry carried on in such room, sufficient interchange of fresh air shall be ensured by forced ventilation or other means as the inspector may deem sufficient, or if this cannot be managed, a minimum of 54 superficial feet and 900 cubic feet shall be provided for each person employed.

Provided also that, subject to the control of the Commissioner, the inspector, or, with the consent of the inspector, a joint inspector may, for reasons to be recorded in writing, relax the conditions of this rule where in his opinion this may be done with due regard to the health of the factory hands employed in any particular room or rooms of a factory.

17. For every factory adequate latrine and urinal accommodation shall be provided in a part of the grounds detached from any other factory building. In no case shall there be less than one latrine seat for every 50 persons employed.

18. Whenever women are employed, separate latrines, properly screened off from observation and secluded from the latrines for males, shall be provided for women.

FORM A.—REGISTER OF FACTORIES.

(Under Rule 3 of the Rules under Section 18 of the Indian Factories Act, XV. of 1881.)

N.B.—This Register should be re-written at the commencement of each Calendar Year.

District. Division.

Serial Number.	Name and Situation of Factory.	Name of Owner or Occupier.	Nature of Industry.	Nature and Amount of Moving Power.	Average Number of Persons daily employed.				Whether the Factory is worked by Shifts and Stoppages. If the latter, the Hour and extent of daily Stoppage.	Whether there is a General Holiday on Sunday or on varying Week-days, or whether the Factory has been exempted from the Rule as to Sunday Labour.	Dates of Inspection during the Year.
					Adults.		Children.				
					Men.	Women.	Male.	Female.			

FORM B.

(Under Rule 9 of the Rules under Section 18 of the Indian Factories Act, XV. of 1881.)

District. Division.

Number of Factory in Register A.	Name or Description of Factory.	Name of Occupier or Manager.	Date of Inspection.	Number of Persons at Work on Date of Inspection.			
				Adults.		Children.	
				Men.	Women.	Male.	Female.

REMARKS AND ORDERS.

No. 970.—*Notification.*—Under the provisions of Section 12 of Act XV. (Indian Factories) of 1881, as amended by Act XI. of 1891, the Lieutenant Governor hereby appoints the Commissioner of the division the authority to hear appeals against orders passed under Section 12, Clause (*c*), of the Act, except in cases connected with railway factories, for which the appellate authority shall be the Consulting Engineer for Railways.

No. 5769, dated Nagpur, the 1st August 1893.

From *L. K. Lawrie*, Esq., Officiating Secretary to the Chief Commissioner of the Central Provinces to the Secretary to the Government of India, Home Department.

I AM directed, in accordance with the instructions contained in Home Department letter No. $\frac{11\text{-Judicial}}{866}$, dated the 30th June 1892, to submit the accompanying copy (with 12 spare copies) of the Report on the Working of the Factories Act in the Central Provinces during the calendar year 1892.

REPORT on the working of the Factories Act in the Central Provinces during the year 1892.

Number of Factories.

FROM the Statement appended to this Report it will be seen that the total number of factories (within the scope of the Factories Act) which were at work in the Central Provinces during 1892 was 16. Five of these were Cotton Mills, eight were Cotton-cleaning Factories, one was a Cotton Press, and two were Railway Workshops. In all of them steam power was used. Their local distribution is as under :—

Nimar District - - - - - -	6
Nagpur District - - - - - -	5
Wardha District - - - - - -	3
Jubbulpore District - - - - -	2
Total - - -	16

The six factories in the Nimar District, two of those in the Nagpur District, and one in the Wardha District are "seasonable" factories—working for a portion of the year only.

Inspections and Inspectors.

2. Eight of the 16 factories were inspected during the year. One factory was inspected twice, three were inspected three times, and three others were inspected more than thrice. The factories which were not inspected were the six Cotton-cleaning Factories in the Nimar District, a Cotton Press at Kamptee, and a Cotton-cleaning Factory at the last-named place. Under arrangements made with the Government of Bombay the Inspector of Factories for the Presidency inspects factories in these Provinces also. It was intimated in this Administration's letter No. 1407, dated the 8th March 1892, that it would suffice for the present if his inspections embraced the following factories :—

1, 2. The two Cotton-spinning Mills at Nagpur.
3. The Cotton spinning Mill at Hinganghat.
4. „ „ „ at Pulgaon.
5. „ „ „ at Jubbulpore.

All of these (except the Pulgaon Mill, which had not commenced work) were inspected by the Bombay Inspector during the year; and copies of his Inspection Reports were submitted to the Chief Commissioner.

3. By "Central Provinces Gazette" Notification No. 8533, dated the 15th December 1891, all Civil Surgeons were appointed Inspectors of Factories for their

their several districts; and the District Reports show that the Civil Surgeons of Nagpur, Jubbulpore and Wardha made repeated inspections. The Deputy Commissioners of Nagpur and Wardha supplemented these inspections by personal visits to the factories in their districts; but the Deputy Commissioner of Jubbulpore seems to have rested content with the reports of other inspectors. The failure of the Civil Surgeon and of the Deputy Commissioner of Nimar to inspect any of the six "seasonal" factories in that district during 1892 is a matter of regret; and the Commissioner of the Division will be asked to see that the omission does not recur.

Results of Inspections.

4. The Inspection Reports of the Special Inspector and of Civil Surgeons show that the provisions of the Factories Act and of the Rules framed thereunder (published in "Central Provinces Gazette" Notification No. 4503, dated the 7th July 1892, and re-printed as Appendix B to this Report) were, in the main, faithfully observed by occupiers of factories. The point in which there was real shortcoming was the provision of the prescribed amount of lateral ventilation. By No. 16 of the Rules above referred to, there must be *ten square feet* of lateral opening for each person employed in any room of a factory. The Bombay Inspector, while bringing to light the fact that the lateral ventilation in the mills at Jubbulpore and Hinganghat did not comply with this standard, inclined to the view that the dry heat of the climate was hostile to the successful working of Cotton Factories, and that the partial exclusion of the outside air was therefore unavoidable. It was, however, pointed out to him, and to the occupiers of the factories concerned, that the required humidification of the atmosphere could be attained by the use of a spray-producing machine, and that this plea for ineffective ventilation could not be entertained.

Stoppages and Holidays.

5. Nine of the 16 mills are worked "mainly" with mid-day stoppages. Where children are employed as well as adults, the former work in shifts or sets, while the latter, as a rule, work with mid-day stoppages. Such cases have been entered in the Return (Appendix A) as worked *mainly* by stoppages. It will be observed that five of the six "seasonal" factories in Nimar are worked by shifts or sets.

In seven of the mills Sunday was observed as a holiday; and in seven others there was a weekly holiday on some day other than Sunday. In two of the Nimar "seasonal" factories a holiday was given, during the season of 1892, on Hindu festival days only. The attention of the Deputy Commissioner will be called to this case.

Sanitation.

6. Another respect in which the arrangements in some of the factories inspected were deficient was the provision of adequate latrine accommodation. This matter received the special attention of Civil Surgeons, and the suggestions made by them have, as far as was practicable, been given effect to. The water supply at all mills inspected was good.

Health of Operatives.

7. The general health of the operatives during the year under report was good; and the operatives do not appear to suffer in any way from the labour on which they are employed.

Wages and general condition of Operatives.

8. With regard to the wages and general condition of the operatives, the reports show that employment in the large mills at Nagpur, Jubbulpore and Hinganghat is eagerly sought after. The Deputy Commissioner of Wardha records that the rate of wages paid in the Hinganghat and Pulgaon Factories exceeds that given by the Department of Public Works and by private employers of labour. The Deputy Commissioner of Jubbulpore writes that "the operatives are well paid, much better off and more contented at the Cotton Mills, as compared with other classes of labourers;" and adds that large numbers of people are sent away for whom employment cannot be found in the mills. The Deputy Commissioner of Nagpur also records that the operatives employed in factories in his district earn better wages than they could command outside.

9. Women

9. Women were employed at all the factories inspected, except the Railway Workshops at Jubbulpore. In the Railway Workshops at Nagpur their work was merely to sweep the premises. Children are employed in the Empress and Swadeshi Mills at Nagpur, in the Hinganghat and Pulgaon Mills in the Wardha District, and in the Gokaldass Balabdass Cotton Mills at Jubbulpore. Nine children are returned as employed in the Nimar Cotton-cleaning Factories. The reports of the Civil Surgeons of Nagpur, Jubbulpore and Wardha show that no children below nine years of age are employed, and that the age of all children working in the mills is duly certified. The children are reported to be in good health and not to be suffering from the nature of their work.

Employment of women and children.

10. Some defects in the fencing of machinery and mill-gearing were brought to light by Inspecting officers; and were promptly remedied by the management concerned.

Fencing of Machinery, &c.

11. The number of accidents reported was 56; of which one only was fatal and only 11 were serious. The fatal accident occurred at the Hinganghat Mill. Of the serious accidents nine occurred in the mills of the Nagpur District. No detailed account of these accidents is given in the District Reports.

Accidents.

12. There was a single prosecution under the Act. The occupier of a Cotton-cleaning Factory in the Nimar District failed to report an accident through which an operative in his factory got one of his legs broken by the machinery. The defaulter was prosecuted under Section 15 (1) (i) and was sentenced to a fine of Rs. 10.

Prosecutions.

L. K. Laurie,
Officiating Secretary to the Chief Commissioner,
Central Provinces.

Nagpur, 31st July 1893.

APPENDIX A.

STATEMENT showing the Working of the Indian Factories

NAME OF DISTRICT.	Number of Factories within the Scope of the Act.										
	Cotton Mills.	Jute Mills.	Woollen Mills.	Paper Mills.	Breweries.	Flour Mills.	Cotton Cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Ironworks or Foundries.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Nagpur	2	-	-	-	-	-	1	1	-	-	-
Bhandara	-	-	-	-	-	-	-	-	-	-	-
Wardha	2	-	-	-	-	-	1	-	-	-	-
Chanda	-	-	-	-	-	-	-	-	-	-	-
Balaghat	-	-	-	-	-	-	-	-	-	-	-
Jubbulpore	1	-	-	-	-	-	-	-	-	-	-
Saugor	-	-	-	-	-	-	-	-	-	-	-
Damoh	-	-	-	-	-	-	-	-	-	-	-
Seoni	-	-	-	-	-	-	-	-	-	-	-
Mandla	-	-	-	-	-	-	-	-	-	-	-
Hoshangabad	-	-	-	-	-	-	-	-	-	-	-
Nimar	-	-	-	-	-	-	6	-	-	-	-
Narsinghpur	-	-	-	-	-	-	-	-	-	-	-
Betul	-	-	-	-	-	-	-	-	-	-	-
Chhindwara	-	-	-	-	-	-	-	-	-	-	-
Raipur	-	-	-	-	-	-	-	-	-	-	-
Bilaspur	-	-	-	-	-	-	-	-	-	-	-
Sambalpur	-	-	-	-	-	-	-	-	-	-	-
PROVINCIAL TOTAL	5	-	-	-	-	-	8	1	-	-	-

APPENDIX A.

Act in the Central Provinces during the Year 1892.

				Number of Factories entered in Columns 2 to 16.			Number of Factories entered in Columns 2 to 16.						
							Inspected during the Year.					Not Inspected during the Year.	Total, Columns 24 and 25.
Sugar Works.	Printing Presses.	Other Factories within Scope of Act.	Total of Columns 2 to 15.	In which Steam Power is used.	In which Steam Power is not used.	Total, Columns 17 and 18.	Once only.	Twice (but not three Times).	Three Times.	More than Three Times.	Total, Columns 20 to 23.		
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
-	-	(a) 1	5	5	-	5	-	-	1	2	3	2	5
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	3	3	-	3	-	1	1	1	3	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	(b) 1	2	2	-	2	1	-	1	-	2	-	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	6	6	-	6	-	-	-	-	-	6	6
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	2	16	16	-	16	1	1	3	3	8	8	16

(a) B. N. Railway Workshops. (b) G. I. P. Railway Workshops.

APPENDIX A—*continued.*

STATEMENT showing the Working of the Indian Factories

NAME OF DISTRICT.	Average daily Number of Operatives employed on the Factories entered in Columns 2 to 16.							Number of Factories entered in Columns 2 to 16 worked only by				Number of	
	Adults.			Children.			Total of Columns 29 and 32.	Shifts or Sets.	Mid-day Stoppages.	Otherwise.	Total of Columns 34 to 36.	On which general Holiday ordinarily given.	
	Males.	Females.	Total.	Males.	Females.	Total.						On Sundays.	On varying Week Days.
1.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.
Nagpur	4,389	664	5,053	400	57	457	5,510	–	5	–	5	3	2
Bhandara	–	–	–	–	–	–	–	–	–	–	–	–	–
Wardha	832	230	1,062	152	71	223	1,285	1	2	–	3	–	3
Chanda	–	–	–	–	–	–	–	–	–	–	–	–	–
Balaghat	–	–	–	–	–	–	–	–	–	–	–	–	–
Jubbulpore	741	112	853	79	4	83	936	–	2	–	2	1	1
Saugor	–	–	–	–	–	–	–	–	–	–	–	–	–
Damoh	–	–	–	–	–	–	–	–	–	–	–	–	–
Seoni	–	–	–	–	–	–	–	–	–	–	–	–	–
Mandla	–	–	–	–	–	–	–	–	–	–	–	–	–
Hoshangabad	–	–	–	–	–	–	–	–	–	–	–	–	–
Nimar	255	226	481	9	–	9	490	5	–	(c) 1	6	3	1
Narsinghpur	–	–	–	–	–	–	–	–	–	–	–	–	–
Betul	–	–	–	–	–	–	–	–	–	–	–	–	–
Chhindwara	–	–	–	–	–	–	–	–	–	–	–	–	–
Raipur	–	–	–	–	–	–	–	–	–	–	–	–	–
Bilaspur	–	–	–	–	–	–	–	–	–	–	–	–	–
Sambalpur	–	–	–	–	–	–	–	–	–	–	–	–	–
PROVINCIAL TOTAL	6,217	1,232	7,449	640	132	772	8,221	6	9	1	16	7	7

(c) Worked for 3 days in a week.

APPENDIX A—*continued.*

Act in the Central Provinces during the Year 1892—*continued.*

Factories entered in Columns 2 to 16.				Number of Accidents during the Year on Factories entered in Columns 2 to 16.				Number of Persons Convicted during the Year in respect of Factories entered in Columns 2 to 16.											
Exempted.		Worked "Otherwise," *i.e.*, not Falling under Columns 38 to 41.	Total Columns 38 to 42.	Fatal.	Serious.	Minor.	Total.	Under Section 15 (1) of the Factories Act, Clauses.									Under Section 15 (2) of Factories Act.	Total, Columns 57 and 58.
Under Section 5 B (2) (*c*).	Under Section 5 B (2) (*d*).							*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	Total (*a*) to (*i*).		
40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.
-	-	-	5	-	9	11	20	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	3	1	-	29	30	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	2	-	1	4	5	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	(*d*) 2	6	-	?	-	1	-	-	-	-	-	-	-	-	1	1	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	2	16	1	11	44	56	-	-	-	-	-	-	-	-	1	1	-	1

(*d*) Here a holiday is given on Hindu festival days.

APPENDIX B.—NOTIFICATION.—Dated Nagpur, the 7th July 1892.

No 4503.—In supersession of Notification No. 8532, dated the 15th December 1891, the following revised Rules have been made by the Chief Commissioner under Section 18 of the Indian Factories Act (Act XV. of 1881, as amended by Act XI. of 1891), and are now published for general information; they will come into force from the 1st August 1892.

Rules.

1. The terms "factory," "child," "mill-gearing," "employed," when used in these rules, shall have the meaning given to them in the Act.

2. Every inspector who is not himself the magistrate of the district shall be officially subordinate to the magistrate of the district in respect to factories situated in that district.

NOTE.—Under Section 3 of Act XV. of 1881, as amended by Act XI. of 1891, each civil surgeon in the Central Provinces has been appointed an inspector of factories in his district, by "Central Provinces Gazette," Notification No. 8533, dated the 15th December 1891.

3. Every inspector (other than a civil surgeon) shall keep a register, in Form A. appended to these Rules, of all factories within the local limits for which he is appointed. If such inspector be not the magistrate of the district, he shall, if so desired, send to the magistrate of the district, for record in his office, copies of the entries relating to such district, and copies of all subsequent additions and modifications thereof.

4. When an inspector has reason to believe that any premises situated within the local limits for which he is appointed and not already registered as a factory, ought to be shown in his register as such, or that any person within the local limits for which he is appointed has omitted to give the notice required under Section 14 of the Act, he thall send through the post, under registered cover, to the occupier of the premises a notice intimating his intention of placing such premises on his register of factories. When such notice is issued by an inspector other than the district magistrate, a copy of the notice shall be sent to the latter for his information.

5. Every person served with a notice under Rule 4 shall be allowed 15 days from the date of service, within which time he may make any objection that he has to offer against the proposal to place his premises on the register of factories.

6. When any premises cease to be occupied as a factory, the occupier may give notice of the fact to the district magistrate, who shall, if satisfied that the Act is no longer applicable to such premises, cause them to be removed from the register of factories.

7. Every factory may be inspected by the district magistrate or other inspector appointed under Section 3, as often as he thinks fit, and shall be inspected at least twice in each calendar year.

8. Every inspector shall keep a register of his inspections in the Form B. appended, in which he shall record all orders and remarks made by him on each occasion of his inspection, and shall state whether the remarks and orders given at previous inspections have been complied with and fulfilled. In the event of an order being passed, he shall fix a reasonable time within which it shall be complied with. A copy of such orders shall be furnished to the occupier of the factory, and a copy of the orders and remarks, if made by an inspector not being the district magistrate, shall also be sent to the district magistrate for information.

9. The occupier of the factory shall, if required by the inspector, bring before him, on the occasion of any inspection, all children employed in the factory and any other persons in the service of such occupier whom the inspector may wish to see; also all registers, certificates, and notices required by the Act or any rules made thereunder to be kept in the factory. A civil surgeon, in his capacity of inspector, is primarily responsible for the detection of cases in which children under the authorised age are employed in factories.

10. A

10. A register of accidents shall be maintained by the inspector in the appended Form C.

11. Certificates granted under Section 5 shall be in the appended Form D.

12. Registers of the children employed in the factory shall be kept by the occupier of a factory in the Forms E. and F. attached to these rules, and the certificates granted by the certifying surgeon shall be filed and kept as an appendix to these registers. No such registers or certificates shall be removed from the factory or destroyed without the written permission of an inspector empowered on that behalf by the district magistrate.

13. An appeal shall lie from every order passed under clause (*c*) of Section 12 of the Act to the district magistrate, if the order is passed by an inspector not being the district magistrate, and otherwise to the Commissioner of the Division. The appeal shall be made in writing in the form of a memorandum, setting forth concisely the grounds of objection to the order, and bearing a Court-fee Stamp in accordance with Article 11, Schedule II. of the Court Fees Act, 1870, and shall also be accompanied by a copy of the order appealed against. It shall be lodged with the appellate authority within 15 days from the date of the receipt by the occupier, under Rule 8, of the copy of the order appealed against. On receipt of the appeal the appellate authority shall fix a date for hearing, and shall give notice thereof to the appellant and to the inspector.

No appeal shall lie from an order passed on appeal under this rule, but the Commissioner of the Division and the Chief Commissioner may review an appellate order of the district magistrate and of the Commissioner of Division respectively, and pass thereon such orders as may appear to him fit.

14. Notices of all accidents resulting in death, or from which the injury is evidently so severe that there is no reasonable hope that the injured person will be able to return to his work within 48 hours, shall be given, on the same day on which the accident occurs, to the district magistrate, to the nearest stipendiary magistrate having jurisdiction over the locality, and to the nearest police station.

Notice of accidents of a less severe character, but which nevertheless prevent the person injured from returning to his work within 48 hours of the occurrence, shall be given, either before or immediately on the expiry of that period, to the district magistrate and the nearest stipendiary magistrate.

All such notices shall contain full particulars of the accident in the appended Form G. Notices of fatal and serious accidents shall be sent to the nearest stipendiary magistrate and to the nearest police station by special messenger. Other notices may be sent by post.

15. Every occupier of a factory shall provide on the premises a supply of potable water for all persons employed thereon. Such supply shall not be less than two gallons for each person employed in the factory.

Where a factory is situated within municipal limits and the municipal committee has provided a public water supply, the water required for drinking purposes shall be drawn from that source on payment of the prescribed water rates. In other cases the water so required shall be provided from a source and in the quantity approved by the inspector.

16. The minimum space provided for each person employed in any room of a factory shall be 36 superficial feet, 500 cubic feet and 10 square feet of lateral ventilating opening. Provided that in cases in which lateral ventilation cannot be contrived on account of the nature of the industry carried on in such room, sufficient interchange of fresh air shall be ensured by forced ventilation or other means as the inspector may deem sufficient; or, if this cannot be managed, a minimum of 54 superficial feet and 900 cubic feet shall be provided for each person employed.

Provided also that, subject to the control of the Chief Commissioner, the district magistrate, or an inspector with the consent of the district magistrate, may, for reasons to be recorded in writing, relax the conditions of this rule where, in his opinion, this may be done with due regard to the health of the factory hands employed in any particular room or rooms of a factory.

17. The walls of rooms in which persons are employed shall be whitewashed to the satisfaction of the inspector at least once a year.

18. The occupier shall provide, in a part of the premises detached from every other factory building, such latrine accommodation as the inspector may consider suitable and sufficient for the number of persons working thereon. The accommodation for male and female operatives, respectively, shall be separate. Efficient arrangements, to be approved by the inspector, shall be made for the cleaning of such latrines and for the removal from them of all solids and liquids at least twice a day.

18. Open or covered drains and catch-pits shall be kept properly flushed and cleaned in such manner as to prevent effluvia injurious to health arising therefrom.

FORMS.

(1) Register of Factories, required by Rule 3.—Form A.
(2) Register of Inspections, required by Rule 8.—Form B.
(3) Register of Accidents, required by Rule 10. – Form C.
(4) Certificates of certifying Surgeon (*vide* Rule 11).—Form D.
(5) Registers of children employed in factories, required by Rule 12.—Forms E. and F.
(6) Notice of accidents (*vide* Rule 14).—Form G.

FORM A.

(Under Rule 3 of the Rules made under Section 18 of the Indian Factories Act, 1881.

[*N.B.*—This Register should be re-written at the commencement of each calendar year.]

Register of Factories.

District. Division.

Serial Number.	Town.	Name and Situation of Factory, with Name of Occupier.	Nature of Industry.	Motive Power, with Number of Looms and Spindles, or both.	Average Daily Number of Workmen Employed.				Superficial and Cubical Capacity of Working Rooms, with Number of Workpeople ordinarily Engaged in each Room.	Whether the Factory is worked by Shifts or Stoppages.	Whether there is a General Holiday on Sunday or a Holiday on varying Week-days.	Whether Machinery is Fenced (*a*) completely, (*b*) partially.
					Adults.		Children.					
					Male.	Female.	Male.	Female.				

FORM B.

(Under Rule 8 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Register of Inspections of Factories.

District. Division.

No. of Factory in Register A.	Name or Description of Factory.	Name of Occupier.	Date of Inspection.	Number of Persons at work on Date of Inspection.			
				Adults.		Children.	
				Men.	Women.	Male.	Female.

Remarks and Orders.

Section I.—Concerning degree of compliance with remarks and orders issued at previous inspection or inspections.

Section II.—Concerning present inspection.

FORM C.

(Under Rule 10 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Register of Accidents.

Serial Number.	Name of Factory and Nature of Industry.	Number of Accidents— (*a*) Fatal. (*b*) Serious.	Whether Accident was due to imperfect Fencing of Machinery or not.

FORM D.

(Under Rule 11 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Certificate under Section 5 of the Indian Factories Act, 1881.

No.———— }
Dated the day of 189 . }

Name of person examined

Son of }
Daughter of }

Residing at

Name and locality of factory at which to be employed }

Age certified

(Signed)

Certifying Surgeon.

No.———— }
Dated the day of 189 . }

I hereby certify that I have this day examined

Name

Son of }
Daughter of }

Residing at

who is $\frac{\text{employed}}{\text{desirous of being employed}}$ in the (state name and locality of factory).

and I consider $\frac{\text{him}}{\text{her}}$ to be $\frac{\text{above 9 or 14}}{\text{below 9 or 14}}$, *i.e.*, about years of age.

(Signed)

Certifying Surgeon.

FORM E.

(Under Rule 12 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Factory Register of children admitted to employment in_____

Name and locality of factory.

Serial Number	Name of School.	Sex.	Name of Parent or Guardian.	Parents' Residence.	Age on Admission as given by Parent or certified by Certifying Surgeon.	Nature of Employment.	Date of First Admission.	Name of Certifying Surgeon (if any), and Number and Date of his Certificate.
1.	2.	3.	4.	5.	6.	7.	8.	9.

FORM F.

(Under Rule 12 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Monthly Muster Register for Children.

Name of Factory_____

Department_____

Serial Number. 1.	Name of Child. 2.	Sex. 3.	Age. 4.	Number of Certificate of Certifying Surgeon (if any). 5.	Occupation. 6.	Days and Hours worked. 7. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Total Days. 8.	Rate of Wages per Month. 9.	Amount Earned. 10. Rs. a. p.	Remarks. 11.

Hours should be given for each child each day.

FORM G.

(Under Rule 14 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Form of Notice of Accident occurring in a Factory.

To

Sir,

I beg hereby to give notice, under Section 13 of the Indian Factories Act, that an accident occurred in the factory of at o'clock this day, causing to the persons mentioned below :—

Name.	Caste.	Sex.	Age.	Nature of Injury.

2. The accident was caused by

3. The injured persons are under treatment by (or have been removed to the hospital).

I have, &c.

Dated Manager.

L. K. Laurie,
Officiating Secretary to the Chief Commissioner,
Central Provinces.

BURMA.

(Judicial Department.—No. 704-4 G.—1. Miscellaneous.)

From *D. H. R. Twomey*, Esq., I.C.S., Officiating Secretary to the Chief Commissioner, to the Secretary to the Government of India, Home Department; dated Rangoon, the 24th July 1893.

Sir,

In compliance with the orders contained in Home Department letter No. 11–867 (Judicial), dated the 30th June 1892, I am directed to submit a report on the working of the Indian Factories Act in Lower Burma, during the year 1892. The district reports are printed *in extenso* as an Appendix, and the prescribed returns in Forms I. and II. are also submitted. The return of convictions under the Act being blank, is omitted.

The provincial report has been delayed by the late receipt of the divisional report of Arakan.

2. During the year, 106 factories were registered under the Act in Lower Burma, and of these, all except one are worked with steam power. The factories consisted of one cotton press, five iron works, two printing presses, 52 rice mills, 41 timber saw mills, three ice works, and two oil works.

Ninety-three of the 106 factories are situated in, or in the neighbourhood of the four chief seaports, Rangoon, Moulmein, Bassein, and Akyab.

3. The number of workmen reported as being employed in the factories was 21,136, of whom 20,335 were males, 588 females, and 213 children. Of the total number, 13,677 are returned as being employed in the factories of Rangoon town alone. It is probable that a large proportion of these, including nearly all the females employed (413), do not come properly within the category of factory operatives, but are merely the coolies referred to in paragraph 4 of the Deputy Commissioner's report. These coolies are engaged in carrying paddy from the country boats to the godowns attached to the rice-mills, and in bagging and handling the grain, apart from the actual milling process. They have no direct concern with the portion of the mill premises which contains the machinery, and unlike the actual operatives in the machinery buildings and workshops are employed, not directly by the mill-owners, but by cooly-maistries or headmen. In the Chief Commissioner's opinion, these coolies should be omitted from the return of factory operatives.

Inspections.

4. No special inspectors have been appointed under the Act in Burma. The work of inspection has been performed by the Deputy Commissioners. The Civil Surgeons of Akyab, Bassein, and Moulmein, and the health officer, Rangoon, have been appointed joint-inspectors of factories, under Section 3, and rules have been framed under Section 18 Sub-section (1), requiring that each factory shall be visited by the inspector at least twice in each calendar year, and by the joint inspector, where such an officer has been appointed, at least once a quarter. The Chief Commissioner considers it unnecessary to adopt the suggestion of the Deputy Commissioner, Rangoon, that a mechanical engineer should be associated with the *ex-officio* inspector for the purpose of examining the machinery of factories. It will be observed that in Bassein the various mills were visited by the Executive Engineer, as well as by the Deputy Commissioner, although the former has not been appointed an inspector under the Act. Whenever a Deputy Commissioner is doubtful whether the provisions of Section 12 of the Act are adequately complied with, as regards the fencing of machinery, it is open to him to invite the Executive Engineer of the division to assist him with his advice after a personal inspection, if necessary. The returns in Form I. furnished by Deputy Commissioners, show that inspections have, with a few exceptions, been carried out regularly during the year. Out of the 106 factories on the registers, seven were inspected once only, 16 were inspected twice but not three times, two were inspected three times, and the remainder, 81, including all the factories in Rangoon and Moulmein, were inspected more than three times. It is not clear why no

inspections were made by the medical officer at Akyab. An explanation has been called for. In compliance with the orders contained in Home Department letter No. 14-756, dated the 4th July 1893, the general instructions issued by the Chief Commissioner for the guidance of inspectors and joint inspectors are reprinted in the Appendix to this Report (Burma Judicial Department Notifications No. 529, dated the 28th November 1891, as subsequently amended, and No. 248, dated the 1st July 1892).

The defects brought to notice in the course of the inspections were not numerous or important, and related for the most part to the fencing of the machinery and the latrine accommodation. It is satisfactory to find that such defects as were discovered were promptly remedied on being represented to the occupiers.

The sanitary condition of and sanitary arrangements in factories.

5. The sanitary condition of the various factories is reported to be generally satisfactory. No case of overcrowding has been brought to notice, and the water supply and latrine and urinal accommodation appear to comply adequately with the rules framed under Section 18, Sub-section (1), Clauses (*b*) and (*c*). The latrines are in most cases situated apart from the factories. No special arrangements are made for the removal of the night-soil, as the latrines are generally built over tidal creeks.

The general health of the operatives.

6. Concerning the general health of the operatives few remarks are necessary. No epidemic of any kind was reported during the year. There were a few cases of cholera in one of the mills at Bassein, but the disease does not appear to have arisen from any special insanitary conditions of the factory.

Wages and general condition of the operatives, &c.

7. The labour used is nearly all imported. Permanent and temporary hands are employed by the mills. The permanent staff are paid monthly wages ranging from Rs. 10 to Rs. 18 a month. The temporary labourers earn from eight annas to one rupee a day in the rice-shipping season. The labourers at the Akyab rice-mills are Chittagonians, and are paid on the outturn of work at the rate of three annas for every 100 baskets of paddy landed and measured.

Employment of women and children.

8. The returns show that 588 women and 213 children were employed during the year. In the rice-mills women are employed principally in sewing bags. In Rangoon they are also employed in cleaning rice and other light duties, and a few in carrying paddy from the boats to the godowns, and rice from the mills to the boats for export. The children are employed in carrying paddy and sawdust and on tallying work.

Fencing of machinery and mill-gearing.

9. The machinery of the mills appears to be generally well protected, and suggestions made by inspectors for improving defects in this respect have been carried out by the occupiers.

Accidents.

10. During the year 15 accidents were reported, of which one was fatal, and ten were serious; eight of the accidents occurred in Rangoon, and five in Moulmein. The district reports show that the accidents in most cases in Rangoon, and in all cases in Moulmein, were due to carelessness on the part of the injured men, and neglect of the standing instructions laid down by the occupiers for their guidance.

Prosecutions.

11. No prosecutions were undertaken under the Act in any of the districts.

Exemptions.

12. The Burma Oil Company's refineries and two ice factories at Rangoon have been exempted from the provisions of Section 5 B relating to Sunday labour. In the former case the Chemical Examiner advised the Chief Commissioner that, for technical reasons, work connected with the distillation of petroleum, must proceed continuously, and in the latter, an article of prime necessity is supplied to the public.

13. By a Notification under Section 20, the Chief Commissioner in April 1892, declared all premises in which steam-driven machinery is used, and in which

which not less than 20 persons are simultaneously employed in the manner described in Sections 2 and 20, to be factories for the purposes of Sections 12 to 14 inclusive, Section 15, Sub-section (1), Clauses (*e*) and (*i*), and Section 18, Sub-section (1), Clauses (*a*), (*e*), (*f*) and (*g*). The effect of this notification was to bring on to the registers about 40 rice and saw mills in which it seemed desirable that the fencing of machinery and the like should be insisted on as in the case of larger mills, but in which the number of hands ordinarily employed is less than 50.

I have &c.,
(signed) *D. H. R. Twomey*,
Officiating Secretary.

APPENDIX to the Report* on the Working of the Indian Factories Act in Burma for the year 1892.

TABLE OF CONTENTS.

	PAGE.
No. 1.—Endorsement No. 9-10M., dated 3rd April 1893, and enclosure from the Commissioner, Pegu Division, to the Secretary to the Chief Commissioner, Burma	181
No. 2.—Letter No. 1969-1F.—2, dated 29th April 1893, and enclosure from the Commissioner, Irrawaddy Division, to the Secretary to the Chief Commissioner, Burma	182
No. 3.—Letter No. 424-10M., dated 26th May 1893, and enclosures from the Commissioner, Pegu Division, to the Secretary to the Chief Commissioner, Burma	185
No. 4.—Letter No. 2379-213, dated 30th May 1893, and enclosures from the Commissioner, Tenasserim Division, to the Secretary to the Chief Commissioner, Burma	186
No. 5.—Letter No. 267-10M., dated 17th June 1893, and enclosure from the Commissioner, Pegu Division, to the Secretary to the Chief Commissioner, Burma	189
No. 6.—Letter No. 208-6—93, dated 24th June 1893, and enclosure from the Commissioner, Arakan Division, to the Secretary to the Chief Commissioner, Burma	192
Judicial Department Notification No. 529, dated 28th November 1891.—Rules made by the Chief Commissioner of Burma under Section 18 of the Indian Factories Act, 1881	193
Judicial Department Notification No. 248, dated 1st July 1892. Rules made by the Chief Commissioner under Section 18, Sub-section (1), Clauses (*b*), (*c*) and (*d*), of the Indian Factories Act, 1881	197
Form No. I.—Statements to accompany the Annual Report on the working of Factories in Lower Burma during 1892	198
Form No. II.—Statement to accompany the Annual Provincial Report on the working of Factories in Lower Burma during 1892	212

DISTRICT REPORTS on the Working of the Indian Factories Act in Lower Burma for the year 1892.

— No. 1. —

Endorsement by *J. K. Macrae*, Esq., Officiating Commissioner of the Pegu Division.—No. 9-10M.; dated 3 April 1893.

COPY of the following, together with its enclosure, submitted to the Secretary to the Chief Commissioner, Burma, for information.

From *W. T. Hall*, Esq., Deputy Commissioner, Tharrawaddy, to the Commissioner of the Pegu Division.—No. 793-VIII.—39; dated 30 March 1893.

I HAVE the honour to submit the annual report on factories for 1892 as required under Judicial Department Circular No. 15 of 1892.

2. For a portion of the year there was one factory, a saw mill, at Ôkpo on the railway line. The mill stopped work as the lease for the site had fallen in before the close of the year, so that on 31st December 1892 there was no factory in this district at all.

3. This

* Letter No. 704-4G.—1, dated 24th July 1893, from the Officiating Secretary to the Chief Commissioner, Burma, to the Secretary to the Government of India in the Home Department.

3. This factory was inspected once in 1892, namely, on 23rd of June, when there were 37 men and no women or children employed. The Inspector noted that the gearing and fly-wheel were not fenced, but that it was not necessary that they should be, as there were posts in such positions that persons could not easily get near the fly-wheel. The engine was in a corner and quite out of the way of those engaged in working the mill.

4. I have no information as to the sanitary condition of the factory, the health of the operatives, or the wages, and so cannot report on them. No women or children were employed.

5. An accident occurred on 6th April, when a sawyer got his hand cut with a saw. This was not reported until the inspection took place in June, and the manager was warned by the Inspector to be particular in reporting accidents in future.

6. There were no prosecutions under the Act, and Form A is therefore blank.

7. A statement in Form I is submitted. As the factory did not exist at the close of the year, it is compiled from the occupier's Return No. 1 for the first half-year.

— No. 2. —

From *G. L. Weidemann*, Esq., Officiating Commisssioner of the Irrawaddy Division, to the Secretary to the Chief Commissioner, Burma.—No. 1969-1F.—2; dated 29 April 1893.

I HAVE the honour to submit the report of the Deputy Commissioner, Bassein, on the working of the Factories Act in his district for the year 1892-93. The Deputy Commissioners, Thôngwa and Henzada, have reported that no factories are in existence in their districts. The Deputy Commissioner, Thayetmyo, submitted a return which had to be sent back as details were wanting, and it seemed doubtful whether factories as defined in the Act had any existence in his district.

I have nothing to add to the report of the Deputy Commissioner, Bassein. I was myself the Magistrate who made the inspections. There were no accidents and no prosecutions. At the time of my July inspection there was hardly any purely factory work in the rice mills, and at the time of my January inspection there was none at all. The labour is nearly all imported, and therefore questions as to wages and general condition of operatives would not possess the same interest as they would otherwise have. Furthermore, at the dates of inspections, which are those laid down by rule (save that the July inspection was accidentally somewhat late), the condition of operatives could not be made the subject of ocular scrutiny.

From *H. S. Hartnoll*, Esq., Deputy Commissioner, Bassein, to the Commissioner of the Irrawaddy Division.—No. 337-35—11; dated 26 April 1893.

I HAVE the honour to submit herewith the annual report on the working of factories for the year 1892-93.

1. *Messrs. Bulloch Brothers' Mill at Padauk.*—Inspected as follows:—

Deputy Commissioner - - -	On 16th July 1892.
Executive Engineer - - - -	On 27th July 1892.
Civil Surgeon - - - - -	On 25th June 1892.
Deputy Commissioner - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 21st February 1893.

Sanitary arrangements reported satisfactory. Health apparently good. No children are employed, and women only in sewing bags in the season.

Machinery is reported to be well protected.

The Civil Surgeon reported accommodation was sufficient and well ventilated, that the water supply was good and latrine accommodation adequate.

2. *Messrs.*

2. *Messrs. Bulloch Brothers' Mill at Kangôn.*—The same remarks apply as to their other mill.

3. *Messrs. Mohr Brothers' Mill at Chaunggu.*—The mill was inspected as follows:—

By Deputy Commissioner - - -	On 16th July 1892.
By Executive Engineer - - -	On 27th July 1892.
By Deputy Commissioner - - -	On 9th January 1893.
By Civil Surgeon - - - -	On 21st February 1893.

Sanitary arrangements are reported as good. Premises were stated to be clean. Accommodation sufficient, ventilation good; latrine accommodation and water supply good. Health was apparently good. No women or children are employed.

The machinery is reported as very well protected with the exception of the brick casement for boilers, but few are stated to ever resort there. There is stated to be an excellent arrangement in case of fire.

4. *Arracan Company's Rice Mill at Nyaungwaing.*—Inspected as follows:—

Deputy Commissioner - - - -	On 16th July 1892.
Executive Engineer - - - -	On 27th July 1892.
Deputy Commissioner - - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 10th March 1893.

New cooly lines have been erected and the accommodation is good.

The Executive Engineer reports that the machinery is well protected and that good arrangements exist in case of fire.

The Civil Surgeon reports that women get more rest than allowed by the Act; that the premises are clean, well ventilated, and in a sanitary state; that latrine accommodation is adequate and filtered water is in use.

No children are employed, and women only to sew bags. Health was apparently good.

5. *Arracan Company's Mill at Kangôn.*—Inspections:—

Deputy Commissioner - - - -	On 16th July 1892.
Executive Engineer - - - -	On 27th July 1892.
Deputy Commissioner - - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 10th March 1893.

The same remarks apply as to their other mill. More barracks are being built and the mill is improving.

The Civil Surgeon reports that the sanitary state, ventilation, &c., is satisfactory.

6. *Messrs. Kruger's Mill at Thinbawgyin.*—Inspections:—

Deputy Commissioner - - - -	On 16th July 1892.
Executive Engineer - - - -	On 27th July 1892.
Civil Surgeon - - - - -	On 24th June 1892.
Deputy Commissioner - - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 22nd February 1893.

The Executive Engineer reports that some improvements had been made to the machinery since last inspection and that the protection to the machinery was very good.

The Civil Surgeon reports the premises were clean, accommodation sufficient and well ventilated, latrine arrangements adequate, and water supply good. Health was apparently good, though a few coolies are said to have died from cholera last season.

No children are employed, though some women are employed to sew bags.

7. *Messrs. Diekmann Barckhausen and Company's Mills at Yegyaw.*—Inspections:—

Deputy Commissioner - - - -	On 16th July 1892.
Executive Engineer - - - -	On 27th July 1892.
Deputy Commissioner - - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 22nd February 1893.

The Executive Engineer reports that the firm have improved the protection to parts of the machinery as suggested by him.

The Civil Surgeon reports premises clean and in a sanitary state, ventilation good, water supply and latrine accommodation adequate. No children are employed, and only a few women in the season.

Health has been apparently good, though it is said a few coolies died of cholera last year. The cause is said to be in the drinking water, and when the Deputy Commissioner visited the mill in January the firm were making an interesting experiment in sinking an artesian well.

8 *Messrs. Steel Brothers' Mill at Tómbo.*—Inspections :—

Deputy Commissioner - - - -	On 16th July 1892.
Executive Engineer - - - -	On 27th July 1892.
Civil Surgeon - - - - -	On 24th June 1892.
Civil Surgeon - - - - -	On 28th November 1892.
Deputy Commissioner - - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 22nd February 1893.

The machinery is well protected. No women or children are employed.

The Civil Surgeon reports that the premises are clean and well ventilated, that accommodation is sufficient, and that the water supply and latrine accommodation are sufficient. He recommends that a well be dug in the compound, and it is contemplated to try the experiment of an artesian well if Messrs. Diekmann Barckhausen's attempt be successful.

Health has apparently been good.

9 *Sgau-Karen Saw Mill at Tónbo.*—Inspections :—

Deputy Commissioner - - -	On 16th July 1892.
Civil Surgeon - - - - -	On 29th November 1892.
Deputy Commissioner - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 11th March 1893.

No women or children are employed.

The Civil Surgeon reports that the premises are well ventilated, water supply and latrine accommodation adequate, though the situation of the latrine is not satisfactory. He has suggested that it be extended about 15 feet into the river, so as to ensure all excreta being carried away.

10. *Kungyan Saw Mill.*—Inspections :—

Deputy Commissioner - - - -	On 16th July 1892.
Deputy Commissioner - - - -	On 9th January 1893.
Civil Surgeon - - - - -	On 22nd March 1893.

No women or children are employed.

The latrine has not been in a good position, but it has now been probably moved out over the river. The premises are reported as well ventilated, and water supply and accommodation as adequate.

11. *St. Peter's Institute Workshop at Athegyi.*—Some of those employed are young, but none under 14 years of age.

The inspections were :—

Deputy Commissioner - - - -	On 18th July 1892.
Deputy Commissioner - - - -	On 11th Janua y 1893.
Civil Surgeon - - - - -	On 21st March 1893.

The Civil Surgeon reports that the premises were clean, accommodation adequate, water supply and latrine accommodation adequate.

No women are employed.

12. From the above it will be seen that the factories were well inspected during the year, and that generally speaking they are in a very satisfactory condition.

I am unable to give details of the wages and general condition of the operatives, as these points have not been touched on in the inspection notes. I hope to be able to do so next year. No accidents were reported during the year.

No. 3.—

From *H. Thirkell White*, Esq., C.I.E., Commissioner of the Pegu Division, to the Secretary to the Chief Commissioner, Burma, No. 424-10M.; dated 26 May 1893.

In continuation of this office, endorsement No. 9-10M., dated 3rd April, forwarding the report of the Deputy Commissioner, Thatrawaddy, on the working of the Indian Factories Act, 1881, for the year 1892, I have the honour to submit herewith in original the reports of the Deputy Commissioners, Hanthawaddy and Prome, for the same period.

The Deputy Commissioner, Pegu, reports that there were no factories in his district in that year.

The report for the Rangoon Town district is the only one now outstanding. I have asked the Deputy Commissioner to expedite its submission.

From *J. K. Mackrae*, Esq., Deputy Commissioner, Hanthawaddy, to the Commissioner of the Pegu Division,—No. 160; dated 29 April 1893.

In accordance with the orders contained in Judicial Department Circular No. 15 of 1892, I have the honour to submit herewith, the annual report on the working of the Indian Factories Act for the year 1892, together with the tabulated statement in Form No. I.

No prosecutions having been instituted under the Act, the statement in Form A has not been submitted.

2. During the year, the following five mills in which steam-driven machinery is used, were registered as factories, having been brought under the definition of factory, by Judicial Department Notification No. 153, dated 11th April 1892:—

(1.) Ah Ton Shôk's rice-mill at Kanaungto.

(2.) Yeo Eng Byan's rice-mill at Kanaungto.

(3.) U Ka Gyi and Maung Kyi Maug's rice-mill at Saikkyi.

(4.) Long Shaing Long's rice-mill at Kamakasit.

(5.) Taikkyi saw-mill.

3. All of these mills were inspected twice during the year by the District Magistrate as inspector of factories. No joint-inspector has been appointed for this district.

4. The mills are ordinarily worked from daylight till sunset, with midday stoppages for an hour or more. In the rice-mills, when the work is brisk during the height of the season, the employés are allowed half-an-hour a day by turns for their midday meal, which is cooked for them. A holiday is observed on Sundays, except in the case of rice-mills in the paddy season, when the work is pressing; the labourers are then sometimes employed on Sundays, for which they get extra allowance, and half-a-day is given to them on one of the three days succeeding the Sunday. However, this pressure does not extend to more than two or three months, and the mills had sometimes to be closed for days together, for want of work.

5. The buildings used as barracks for coolies are all well removed from the factories, and are spacious and well ventilated. Sufficient latrine accommodation is provided; in most cases scavenging is not practised. Potable water in sufficient quantity is procured from tanks close to the mills; but in the hot season, the supply of the rice-mills for drinking purposes is supplemented by boat-loads of water conveyed daily from Rangoon. In the Taikkyi saw-mill, pure water is supplied to the mill from the railway water column by means of pipes.

6. The general health of the employés is said to be good. No outbreak of any contagious disease amongst them has been reported.

7. The labourers other than coolies earn an average of about a rupee a day. The coolies engaged in carrying paddy from the boats to the mills, and placing the rice in boats, are not employed by the mill-owners, but work under contractors, who do the work at so much per 100 baskets. Madrasi coolies are mostly employed by them, and earn from 12 annas to a rupee a day. A few of the wives of these Madrasi coolies are employed occasionally to sew up the mouths of the rice-bags, and earn from six to eight annas a day. No children are found employed in any factory.

8. On my first inspection of the factories, I found that in some mills, the fencing to the machinery was defective. Orders issued in consultation with the Executive Engineer of the division have caused these defects to be remedied.

9. All the mills are driven by steam-power. The fuel used in the rice-mills is paddy husk; in the saw-mill, refuse wood.

10. No accident has been reported during the year.

From Lieutenant-Colonel *C. A. Cresswell*, Deputy Commissioner, Prome, to the Commissioner of the Pegu Division,—No. 3-2C.T.—92-93; dated 2 May 1893.

IN reference to your Revenue Department letter No. 330-10M., dated 24th April 1893, and in continuation of this office letter No. 2,139-2C.T. (last paragraph), dated 28th idem, I have the honour to report as follows.

Mr. Sutherland's saw-mill employs off and on, and very irregularly, something like 28 men, who do not live on the premises. The orders laid down with regard to factories are carried out, and there is really nothing to remark. No women or children are employed. There have been no accidents. The opinion of the Executive Engineer will be asked on his next visit whether more fencing of the machinery is required. There have been no prosecutions. The place is in a sanitary state. Necessary statements are herewith submitted.

— No. 4. —

From Colonel *H. R. Spearman*, Commissioner of the Tenasserim Division, to the Secretary to the Chief Commissioner, Burma,—No. 2,379, 213; dated 30 May 1893.

I HAVE the honour to submit the annual reports on the working of the Factories Act for the year 1892, received from the Deputy Commissioners, Amherst, Tavoy, and Toungoo, and to say that the Deputy Commissioners of Mergui, Shwegyin, and Salween, state that the reports for their districts are blank.

From Captain *A. B. Pritchard*, Deputy Commissioner, Amherst District, to the Commissioner of the Tenasserim Division,—No. 289-35; dated 7 April 1893.

WITH reference to Judicial Department Circular No. 15 of 1892, I have the honour to submit the annual report on the working of the Indian Factories Act, 1881, in the districts of Moulmein Town and Amherst, during the year 1892, together with two tabulated statements in the annexed forms (Forms No. I and A).

1. *Inspectors and Certifying Surgeons.*—Under Judicial Department Notifications Nos. 155 and 191, dated 6th September 1890, and 25th May 1892 respectively, the sub-divisional officer, Moulmein Town, and the civil surgeon of Moulmein, were appointed inspector and joint inspector of factories within the local limits of their respective jurisdictions.

Inspections.—All factories were inspected thrice during the year by the joint-inspector, beginning in June 1892, and twice by the inspector of factories. The inspections disclosed a few sanitary defects, and defects in fencing, and it was discovered that accidents had not been duly reported by the occupiers of several

several factories. Orders were issued to remedy the former, and notices inviting attention to Section 13 were circulated for information and future guidance of all occupiers.

Casual inspections were made by the inspector, with the object of seeing that orders issued regarding fencing were carried out satisfactorily and within the the time allowed.

With one or two exceptions, occupiers of factories show no interest in carrying out the provisions of the Act in sending notices, furnishing returns, maintaining registers, &c. In fact, in no single factory was there a copy of the Act or rules. I fear the responsibility of occupiers must be enforced if it is intended to work the new law satisfactorily.

2. *Number and description of factories, sanitary condition, sanitary arrangements.*—All factories to which Act XV. of 1881 applies are situated in the town of Moulmein, and in the district of Amherst, and are within the jurisdiction of the Deputy Commissioner and District Magistrate of the Amherst district.

(1.) There are 27 factories, eight being steam rice and 19 steam saw or timber mills. Of these, seven rice and six timber mills are occupied by Europeans and one rice and 13 timber mills by natives of India and Burma.

These mills are situated on the bank of the river and are rice and timber mills. There is a sufficient supply of potable water at all the mills from wells, except in two instances, where the wells are situated outside the mill compounds.

(2.) Latrine accommodation is provided on the ground detached from buildings; in one case, however, no such accommodation was provided at all but since the joint-inspector's inspections, a latrine has been erected on the river bank, as is the case in almost all the mills. In another mill compound, a very old and foul cesspit was filled up.

Until the Municipality are able to start and maintain a regular night conservancy system to work all over the town, latrines on the dry earth system can hardly be enforced in these mills, and the present system is only what prevails along the bank of the river from one end of the town to the other.

The superficial and cubic feet for each person, and the ventilation in these mills are sufficient and satisfactory.

3. *Average numbers, general health of operatives.*—The average daily number of operatives employed in the different factories is 110. A large proportion of these are natives of India. Most of the factories are worked by midday stoppages, and generally no persons are employed in any factory on a Sunday. The general health of the operatives is good.

4. *Wages and general condition of the operatives.*—The regular operatives are able-bodied men in good health. Wages average Rs. 12 to Rs. 13 per mensem. They live usually in barracks, and during four months of the year, whilst loading ships, they earn from Rs. 15 to Rs. 30 per mensem.

5. *The employment of women and children.*—This class of operatives are not usually employed in the factories in Moulmein Town and the Amherst district. In timber mills boys are employed to remove sawdust, and in rice mills on tallying work. Surgeon-Major Thomas writes:—

"The certifying surgeon is not required to certify as to the ages or condition of these. There are four boys over 14 years employed in two mills, and a very few women in some (only the rice-mills) employed in sifting and sorting samples of rice, and sowing up bags of rice,—light work."

So far as I know, no women are now employed in any of the factories.

The number of children employed is 14, and their work is light. They are never employed in or near mill-gearing or machinery. No factory register of children has been kept in any factory where they have been employed. The attention of the occupiers has been directed to this omission.

6. *Fencing.*—The fencing of dangerous parts of machinery and mill-gearing has been strictly enforced.

7. *Accidents.*—Three accidents were duly reported during the year. These occurred in two factories. Two were at rack (saw) benches, and one at a boiler in a rice mill. In two cases the accidents resulted in severe injuries, and in

the third the injury was slight. In all three cases the accidents were due to carelessness or indifference of the operatives themselves, who were either inexperienced or unskilled in the work of the department of the factory in which they were employed. Two more accidents, also at the saw benches, in another factory, were discovered by the inspector of factories during his half-yearly inspection, and which were not reported by the occupiers, who pleaded ignorance of the Act and rules. They have been warned. I have reason to believe that other accidents occurred, which were not reported. Mill-owners have been informed the next case will be severely dealt with. Notices calling attention to Section 13 of the Act have been sent to all occupiers of factories. An enquiry was ordered to be held into the cause of one accident. The result showed that unskilled labour was employed, and the accident was due to the ignorance of one of the operatives working at the saw at which it occurred.

8. *Prosecutions.*—There were no prosecutions during the year under report.

From Captain *J. J. Cronin*, Deputy Commissioner, Tavoy, to the Commissioner of the Tenasserim Division,—No. 197-25—3; dated 6 April 1893.

I HAVE the honour, in accordance with the provisions of Judicial Department Circular No. 15, of 1892, to submit herewith the annual report on the working of the Factories Act and Rules, framed thereunder for the year 1892.

In this district there are only three factories registered under the Act, all are situated in the town of Tavoy. They are as follows :—

(1.) Messrs. Crisp and Co.'s rice and timber mill, situated at Kyetsabyin quarter, Tavoy.

(2.) Maung Shan Byu's timber and rice mill at Bônmaw quarter, Tavoy.

(3.) Maung Aung Do's timber mill at Kyetsabyin.

The last named has not been working since February 1892, owing to the death of Maung Aung Do. The other two mills have been working throughout the year.

During the year under report, Colonel Jenkins and Captain A. B. Pritchard successively held charge of the Tavoy district.

Inspections.—The factories appear to have been inspected only once during the year 1892, namely, on 16th February 1892 by the Deputy Commissioner, Lieutenant-Colonel Jenkins. On that occasion all three mills were inspected. Maung Aung Do's mill was not working on the day of inspection. Sixty men and five boys over the age of 12 years were employed in Messrs. Crisp and Co.'s mill; all appeared to be healthy and not overworked.

At Maung Shan Byu's mill 17 men were employed. On the date of inspection the mill was not working, the boiler was old, and the machinery was very dirty. The result of this inspection has been, that all parts of the machinery hitherto exposed have been protected by planking, while the machinery has since been kept in better order. I am unable to give any particulars as to the sanitary arrangements, wages, and general condition of the operatives, &c., as my predecessors have omitted to make any mention of these subjects in their inspection notes. Two girls between the ages of 12 and 13 years, and four boys between 15 and 16 years of age were employed at Maung Shan Byu's mill during the year. Five boys between the ages of 13 and 15 years were, during the same period, employed in Messrs. Crisp's mill. All appeared healthy and not overworked.

No inspection appears to have been carried out by the civil surgeon during the year, as he has not been appointed a joint-inspector. The fencing of machinery and mill-gearing has hitherto not been properly carried out; since the last inspection, much improvement has taken place in this respect.

Accidents.—No accidents were reported during the year.

Prosecutions.—No prosecutions were taken under the Act, and no convictions were had. Form A is therefore submitted in blank. Greater attention will be paid to the working of the Act during the ensuing year.

From

From *G. M. S. Carter*, Esq., Deputy Commissioner, Toungoo, to the Commissioner of the Tenasserim Division,—No. 18-1,112; dated 13 February 1893.

I HAVE the honour to submit report on the working of the Factories Act in this district for the year 1892.

Only one mill, that known as the Minlangu saw-mill, which had hitherto employed on an average more than 50 persons, was declared a factory from 1st January 1892. During the year under report, however, the average number of persons employed was 40 only. The mill changed hands on 1st April, and from that date up to 26th September it was not worked, and after that date very irregular. I inspected it during the month of December.

The mill is situated on the bank of the Kun, a perennial stream, which flows from the hills about two miles off; the water supply is therefore excellent. It is surrounded by dense jungle. The operatives live in their own houses. The mill itself is a large open building without walls. The general health of the operatives, who are Burmans and natives of India, is good. Wages from Rs. 12 upwards. No women or children are employed. There were no accidents or prosecutions during the year. The work turned out was for the most part sleepers for railways and building material.

— No. 5. —

From *H. Thirkell White*, Esq., C.I.E., Commissioner of the Pegu Division, to the Secretary to the Chief Commissioner, Burma,—No. 267 10M.; dated 17 June 1893.

IN continuation of my letter No. 424-10M., dated the 26th May 1893, I have the honour to submit in original the report of the Deputy Commissioner, Rangoon Town district, on the working of the Indian Factories Act, 1881, in his district.

2. The inspections under the Act have been duly made, and both the Deputy Commissioner and the Joint-Inspector have directed their attention to the points in respect of which the management of factories requires supervision. With the ready assistance of the owners of factories, they have been enabled to satisfactorily discharge their duties during the year of report. The Deputy Commissioner's report does not seem to call for any detailed comments. The condition of the labouring class and the habits of the people in this province are such as to render it unlikely that any grave abuses connected with the employment of women and children will be prevalent. The chief points which require notice are the observance of ordinary sanitary regulations and the enforcement of the rules regarding the fencing of machinery. It seems desirable that if possible the Deputy Commissioner's recommendation regarding the professional inspection of the arrangements prescribed by Section 12 of the Factories Act should be adopted.

From *A. L. Hough*, Esq., Deputy Commissioner, Rangoon Town, to the Commissioner of the Pegu Division,—No. 130-6G.—256; dated 7 June 1893.

WITH reference to Judicial Department Circular No. 15 of 1892 and your Revenue Department reminder No. 10M., dated the 31st ultimo, I have the honour to submit the following report on the working of the Indian Factories Act, 1881, in Rangoon Town district during the year 1892. The tabulated statement in Form I and the return of convictions under the Act in Form A, referred to in that circular, are herewith submitted.

2. *Inspectors and Certifying Surgeons.*—There is no special Inspector of Factories appointed under Section 3 of the Act for Rangoon Town District. The District Magistrate has hitherto been and still is, in virtue of his office, the Inspector of all Factories in this district.

About the middle of the year under report the Health Officer of the Municipality of Rangoon was appointed as Joint-Inspector of Factories within the Municipal limits. He was also appointed under Section 5 of the Act as a Certifying Surgeon for the factories within the said limits. He, however, did no work as a Certifying Surgeon during the year of report, as no applications were made to him for the examination of children and the grant of certificates of age.

3. *Inspections.*—There were 47 factories on the register in the year of report, and each of them was inspected twice by the Inspector and twice by the Joint-Inspector. The inspections by the Inspector were made half-yearly, in the months of January and July, and those by the Joint-Inspector quarterly, between the months of July and December. Under the rules the inspections by the Inspector are to be made in the months of January and June, but I have for the past three years made the second inspection in the month of July instead of June. The reasons for this are that in the latter month the work in my office is very heavy and the income-tax and other reports and returns have to be submitted. The sanction of the Commissioner was obtained for this in each year.

The Joint-Inspector commenced work about the middle of July 1892 and was paid a fixed allowance of Rs. 150 per month. A condition of his being granted this allowance was that he was to inspect each of the 47 factories on the register at least once in each quarter. This condition was complied with in the year of report.

4. *Operatives.*—In almost all the factories in Rangoon there are two distinct kinds of workmen employed, namely, "mill-hands" and "coolies." The former are generally employed permanently and receive monthly wages ranging from Rs. 10 to Rs. 18 per month each man according to the nature of work they have to perform. The latter work by contract under the direction of a maistry or headman, who looks after their interests and is responsible for their work. During the busy season, say from the middle of December to the middle of May, the coolies employed in the rice-mills earn, I understand, on an average about a rupee for each working day. In the saw-mills and the smaller factories they probably earn about 4 annas a day less, but on the whole the wages paid to operatives generally are quite ample to keep them supplied with all their requirements and even to enable them to put by some of it for remittance to their home. This class of operatives consists almost entirely of natives from the Madras coast ports, who come to Rangoon in great numbers at the commencement of the busy season and generally return to their homes with their earnings after it is over. The "mill-hands" are principally natives from Chittagong, Bengal, and the Upper Provinces of India, with a few Chinese and Burmese carpenters, blacksmiths, &c. These men are perhaps not as well paid as the coolies, but they are generally employed permanently and have lighter duties to perform.

The general health of the operatives in all factories in Rangoon was good. No sickness or epidemic of any kind was reported during the year and the men looked healthy and strong. The coolies work in the open air when loading and unloading boats; at other times they work under large, lofty, and well ventilated sheds. They carry the grain (paddy) from the boats to the godowns, and from thence to the "hopper," and after the operation of milling is completed, the rice is carried by them from the mill to boats for export.

In the rice-mills and oil and ice factories the operatives work by shifts approved by the Inspector. In the saw-mills and foundries there are complete stoppages and no shifts. During the busy season there are generally in the rice-mills, &c., three shifts, one at 6 a.m., one at 2 p.m., and one at 10 p.m., the men in each shift being eight hours on and 16 hours off duty, both day and night. This refers to "mill-hands" only. The coolies, as already stated, work by contract, and they seldom work for more than three or four hours at a time, which is generally the time occupied in loading or unloading a boat of paddy or rice. In the off season the rice-mills work only during the day, generally from 6 a.m., to 6 p.m., and then two shifts only are employed, which change every six hours. Notwithstanding the above arrangement of shifts, each operative is allowed from one to one-and-a-half hours each day for breakfast or dinner as the case may be. This is arranged for at some mills by having a few extra men to take their places while they are away, and in others they are allowed to arrange

arrange between themselves to go by turns for their meals, &c. In this case each man gets in his turn from one to one-and-a-half hours time for his food, &c. In the saw-mills and foundries, which generally work from 6 a.m. to 6 p.m., there is a stoppage of work for one to one-and-a-half hours between 10 a.m. and 11.30 a.m. Under Section 5A (1) of the Act a stoppage of work for a full half-hour between noon and 2 o'clock in the afternoon is compulsory. The operatives in these mills are, however, accustomed to taking their breakfast between 10 and 11 o'clock in the forenoon, and work is stopped between those hours only to suit their convenience.

5. *Women and children.*—The number of women and children employed in the factories in Rangoon is very small. The former are only employed in the rice-mills to stitch bags, to clean rice, to carry paddy, and to perform other light duties. The latter are employed in both rice-mills and saw-mills to carry paddy and sawdust. They are, as a rule, never employed for more than six hours in a day, and they get the same time for meals, rest, &c. The general health of the women and children employed in these mills during the year of report was good.

6. *Sanitation.*—In the larger factories and in some of the smaller ones the operatives are housed in spacious, well raised, and well ventilated barracks. They are supplied with water of good quality and in sufficient quantity from artesian wells, and in some factories close to the town from the municipal pipes. In some of the smaller mills the barracks for the accommodation of coolies were built on low swampy ground, but most of them were pulled down during the year of report and new barracks were built on more sanitary principles. The latrine accommodation, except in a few cases, was ample and sanitary. Most of the latrines are built on creeks or on the river bank, and as they are regularly washed out by the tide, it does not entail much trouble or expense to keep them clean and sanitary. Others situated inland are conserved regularly by the mill-owners, and in some mills which are close to the town by the Municipality.

7. *Fencing.*—The machinery and mill-gearing in all mills are fenced as far as possible in terms of Section 12 of the Act. In that section certain directions are laid down as to the fencing of machinery and mill-gearing, the proper inspection of which cannot be carried out without the assistance of a competent mechanical engineer in large and elaborate works such as the rice and saw-mills. I would therefore recommend that a competent mechanical engineer be associated with the District Magistrate in this part of the work of inspection.

8. *Accidents.*—The number of accidents reported in the year of report was eight only. Of these, three occurred in rice-mills, four in saw-mills, and one in the Irrawaddy Flotilla Company's dockyard. Of those that occurred in the rice-mills, all three were serious, consisting in two cases of fracture of one leg, necessitating amputation, and in the third case one of the sufferer's fingers was torn off.

Of those that occurred in the saw-mills one consisted of fracture of leg below the knee, the second compound fracture of thumb and two fingers, the third simple fracture of collar-bone, and the fourth serious injury to leg and thigh resulting in the death of the sufferer. The accident at the Dala dockyard consisted of fracture of left arm, necessitating amputation.

In all these cases magisterial inquiries were held by the Assistant and Junior Assistant Magistrates, and the results of these inquiries showed that in most cases the accidents occurred through the carelessness of the operatives or neglect on their part to carry out standing orders.

9. *Prosecutions.*—No prosecutions were undertaken under the Act during the year of report. The prescribed statement is herewith submitted blank.

10. In closing this report I wish to place on record the great help and assistance which has been rendered to me by the mill-owners in Rangoon generally. They have been generally punctual in the submission of the periodical returns, and have at all times promptly furnished me with any information I required of them on my rounds of inspection, and have been most courteous.

— No. 6. —

From *A. R. Birks*, Esq., Officiating Commissioner of the Arakan Division, to the Secretary to the Chief Commissioner, Burma,—No. 208-6—93; dated 24 June 1893.

I HAVE the honour to submit in original a report by the Deputy Commissioner, Akyab, on the working of the Factories Act in his district during the year 1892.

2. As I arrived after the close of the year, I have very little to add.

3. The present rules do not require that the Executive Engineer should be present at inspections held by the Deputy Commissioner. That officer is, however, presumably more competent to express an opinion as to whether machinery is adequately protected.

4. There is a great difference between Bassein and Akyab in the use made of female operatives.

5. Reports from other districts of the division are blank.

From *A. M. B. Irwin*, Esq., Deputy Commissioner, Akyab, to the Commissioner of the Arakan Division,—No. 666-17G.—17; dated 22 June 1893.

I HAVE the honour to submit a report on the working of the Factories Act in this district for the calendar year 1892, together with statements appertaining thereto, as called for in Judicial Department Circular No. 15 of 1892.

Inspections.—The factories in this district were inspected twice during the year under report by the district magistrate. The first inspection was on the 27th January, and the second on the 15th June. The factories were not at work during the time of inspection, but everything was found to be right and in good order. Copies of these inspection notes were regularly after each inspection forwarded to the Commissioner of the division in Form B.

Sanitary condition.—The mills were in a satisfactory state. The number of hands employed varies from 600 to 900 in each mill during the working season. The coolies live in separate lines provided for them, and the cooly-manji is responsible for the cleanliness of the place. Separate tanks are provided by the mill-owners for drinking and bathing purposes. Open-air latrines, consisting of shallow trenches, are also provided by the mill-owners for the use of labourers, well away from their quarters.

Health of the operatives.—No cases of serious illness prevailed amongst the hands employed in any of the factories during the year under report, except a few cases of cholera here and there.

Wages and condition.—The permanent hands of the staff are paid by the month; the other labourers (coolies) work in gangs varying from 20 to 40 men in each. Each gang is paid at the rate of 3 annas for every 100 baskets of paddy landed, and 3 annas for every 100 baskets measured. Each such gang is capable of landing and measuring from 2,500 to 3,000 baskets of paddy in one day. This system of payment is believed to be carried on throughout the mills. Most of the men engaged are Chittagonians, who come here only for the season, which lasts from three to four months in the year, and go back to their houses. They seem to be in fairly good condition.

Employment of women.—Women are very scantily employed in the mills here. The provisions of the law with regard to their employment are believed to have been observed.

Certifying surgeon.—The appointment of this officer was in May, 1892, at the end of the season, while all the factories were closed, so there was no work done by him in respect to Section 5 of the Act.

Fencing of machinery was sufficient.

Accidents.

Accidents.—There were no accidents reported during the year under report.

Prosecutions.—There were no prosecutions brought against persons under the Act during the year under review.

The registers of inspection of factories in Forms A and B have been kept up to date. Register A is re-written at the end of the calendar year.

In Form I, three mill owners have shown their mills as exempted from the prohibition of Sunday labour. I have asked them to quote the numbers and date of the notifications.

Judicial Department Notification,—No. 529; dated Rangoon, 28 November 1891.

The following rules made by the Chief Commissioner of Burma, under Section 18, Sub-section (1), Clauses (*e*), (*f*), and (*g*), of the Indian Factories Act, 1881, in supersession of Revenue Department Notification No. 73, dated 24th August 1882, are published for general information.

Rules made by the Chief Commissioner of British Burma, under Section 18 *of the Indian Factories Act*, 1881.

1. The terms "factory," "child," "mill-gearing," "employed," and "Certifying Surgeon," when used in these rules, or in any supplementary rules that may hereafter be made under the Act, shall have the meaning given to them in the Act.

"Inspector" means the Deputy Commissioner of the District. "Joint-inspector" means an inspector, other than the district magistrate, appointed by the local Government under Section 3 of the Act.

2. Each inspector shall keep a register of all factories within his jurisdiction in the Form A attached to these rules.

3. Each inspector shall send through the post, under registered cover, a notice to the occupier of every factory within his jurisdiction, intimating his intention of placing such factory upon his register of factories.

4. Any person served with a notice under Rule 3, whose premises do not fall within the definition of a factory given in the Act, may, within 15 days of the receipt of such notice, forward to the inspector a statement setting forth his objections to the registration of his premises as a factory. The inspector shall consider and dispose of such objections after making such enquiry as he may deem necessary, and shall make up his register of factories in accordance with the provisions of the Act.

5. The inspector may at any time serve a notice, as provided in Rule 3, upon the occupier of any factory which is not already entered in his register of factories, and the provisions of Rule 4 shall apply to the subsequent proceedings in all such cases.

6. When any premises cease to be occupied as a factory, the occupier may give notice of the fact to the inspector, who shall, if satisfied that the Act is no longer applicable to such premises, remove them from his register of factories.

7. Each factory shall be inspected by the inspector at least twice in each calendar year. Where there is a joint-inspector, each factory shall be also inspected by him at least once a quarter.

8. The inspector shall keep a register of his inspections of each factory in Form B attached to these rules, in which he shall record all orders and remarks made by him on each occasion of his inspection. When a factory is inspected by a joint-inspector, his orders and remarks shall be recorded in the inspector's register.

9. The inspector shall, without delay, furnish a copy of such orders and remarks to the Commissioner of the division, and also to the occupier of the factory concerned.

The despatch through the post, under registered cover, of the copy of such orders and remarks shall be deemed to be sufficient service on the occupier of the factory of any orders or directions therein contained.

10 It shall be the duty of joint-inspectors who are civil surgeons or medical officers at each inspection :—

(*a.*) To personally examine all the children employed in the factory, and to report to the inspector any case necessitating orders under Clause (*c*) of Section 4 of the Act.

(*b.*) To make such examination of the women employed in the factory as to satisfy himself that the provisions of Clauses (1), (2), and (3) of Section 6 of the Act are observed.

(*c.*) To report to the inspector the physical condition of the women and children, and whether the work on which they are employed appears to be injurious to health.

* (*d.*) To inspect the well, tank, or other source from which water is supplied to the operatives, and to note whether it is wholesome and is kept clean, and whether the supply is adequate according to the rules made under Section 18 (1), Clause (*b*).

* (*e.*) To inspect the latrines provided for the operatives of both sexes, and report to the inspector whether they are in a sanitary condition, whether they are sufficient for the number of persons employed, and whether they comply with the rules made under Section 18 (1), (*c*).

* (*f.*) To inspect the accommodation provided for the operatives of both sexes, and report to the inspector whether it complies with the rules made under Section 18 (1), Clause (*d*), and is otherwise healthy.

11. The occupier of a factory shall, if required by the inspector or joint-inspector, bring before him, on the occasion of any inspection, all children employed in the factory, and any other persons in the service of such occupier whom the inspector or joint-inspector may wish to see.

12. Each certifying surgeon shall give the certificate described in Section 5 of the Act in the Form C attached to these rules. Forms of certificate in counterfoil will be supplied to certifying surgeons by the Deputy Commissioner of the district.

13. Every occupier of a factory shall keep a file of all certificates of certifying surgeons relating to persons in his employ, and shall produce this when required by the inspector. Every such certificate shall be returned by such occupier to the parent or guardian of the person to whom it relates on his leaving the factory for other employ, and on demand of such parent or guardian.

14. No registers in Forms E and F prescribed by this Department Notification No. 526, dated the 28th November 1891, shall be destroyed or removed from the factory without the written permission of the inspector. Forms for such registers bound into books will be supplied to occupiers of factories, on indent, by the Deputy Commissioner of the district.

15. Appeals which lie to Commissioners of divisions from orders of inspectors under Section 12, Clause (*c*) of the Act must be submitted in the Form D annexed to these rules through the inspector within 15 days of the order appealed against; and the inspector shall forward each such appeal within seven days of its presentation, with any remarks or explanations which he may see fit to make. The Commissioner shall, on receipt, fix a day for disposing of the appeal, and give due notice thereof to the appellant.

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* Amended by Judicial Department Notification No. 249, dated 1st July 1892.

FORM A.

(Under Rule 2 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

N.B.—This Register should be re-written at the commencement of each calendar year.

Register of Factories.

District_____ Division_____

Serial No.	Town, Thana, or other Local Division in which Factory is situated.	Name or Description of Factory.	Nature of Business carried on.	Name of Occupier.	Number of Persons ordinarily Employed.				Date of Inspection during the Year 189 .
					Adults.		Children.		
					Men.	Women.	Male.	Female.	

FORM B.

(Under Rule 8 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Register of Inspections of Factories.

District_____ Division_____

Number of Factory in Register A.	Name or Description of Factory.	Name of Occupier.	Date of Inspection.	Number of Persons at Work on Date of Inspection.			
				Adults.		Children.	
				Men.	Women.	Male.	Female.

Remarks and Orders.

FORM C.

(Under Rule 12 of the Rules made under Section 15 of the Indian Factories Act, 1881.

Certificate under Section 5 of the Indian Factories Act, 1881.

No.———

Dated the——day of———189——.

Name of person examined———

Son of / Daughter of ———

Residing at———

———

Name and locality of factory at which to be employed ———

Age certified———

Certifying Surgeon.

No.———

Dated the——day of———189——.

I hereby certify that I have this day examined—

(Name)———

Son of / Daughter of ———

Residing at———

who is ____ employed / desirous of being employed in the*———

and I consider him / her to be above 9 or 14 / below 9 or 14 *i.e.*, about——— years of age.

Certifying Surgeon.

* State name and locality of factory.

FORM D.

(Under Rule 15 of the Rules made under Section 18 of the Indian Factories Act, 1881.)

Memorandum of Appeal.

Section 12, Clause (*c*), of the Indian Factories Act, 1881.

Memorandum of Appeal.

(Name, description, and place of residence.)

Occupier of———factory,

———district,

Appellant.

Inspector of factories for the———district,

Respondent.

(Name of Appellant) above-named appeals to the Commissioner of the Division against the order of the inspector of factories for the district, under Section 12, Clause (*c*) of the Indian Factories Act, 1881, dated the day of , for the following reasons, namely (here state the grounds of objection).

N.B.—The stamp-fee on this memorandum of appeal is regulated by Article 11, Schedule II., of the Court Fees Act, VII of 1870.

F. C. Gates,
Junior Secretary.

Judicial Department Notification No. 248, dated Rangoon, 1st July 1892.

In exercise of the power conferred by Section 18, Sub-section (1), Clauses (*b*), (*c*), and (*d*), of the Indian Factories Act 1881, the Chief Commissioner makes the following rules.

Rules under Clause (*b*).

1. Every occupier of a factory shall on every day on which work is carried on in the factory which he occupies have available at the said factory, for the use of the persons employed therein, free of cost to them, a water-supply consisting of at least twice as many gallons of water as there are persons employed in the factory; of the whole supply at least as many gallons as there are persons employed in the factory shall be fit for potable purposes, and the remainder shall be fit for purposes of washing.

Under Clause (*c*).

2. For every factory adequate latrine and urinal accommodation shall be provided by the occupier in a part of the grounds detached from any other factory building. The latrines and urinals shall be kept in a clean and sanitary condition. In no case shall there be less than one latrine seat for every 50 persons employed.

3. Whenever women are employed in a factory separate latrines, properly screened off from observation and secluded from the latrines for males, shall be provided for women.

Under Clause (*d*).

4. The minimum space provided for each person employed in any room of a factory shall be 36 superficial feet, 500 cubic feet, and 10 square feet of lateral ventilating opening. Provided that in cases in which lateral ventilation cannot be contrived on account of the nature of the industry carried on in such room, sufficient interchange of fresh air shall be ensured by enforced ventilation or such other means as the inspector may deem sufficient; or if this cannot be managed, a minimum of 54 superficial feet and 900 cubic feet shall be provided for each person employed.

Provided also that, subject to the control of the Chief Commissioner, the District Magistrate, or a Joint-Inspector, with the consent of the District Magistrate may, for reasons to be recorded in writing, relax the conditions of this rule where, in his opinion, this may be done with due regard to the health of the factory hands employed in any particular room or rooms of a factory.

FORM No. I.—STATEMENT to accompany Annual Report on the

THARRAWADDY DISTRICT.

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Saw-mill, Ôkpo - -	Saw-mill - - -	Steam-engine -	25 H. P.	30	-	30	-	-	-	30

FORM No. I.—STATEMENT to accompany Annual Report on the

BASSEIN DISTRICT.

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.		5.	6.	7.	8.	9.	10.	11.	12.
1	Padauk Mill - - -	Rice-mill -	Steam-engine -	85 H. P.	650	50	700	-	-	-	700
2	Kangôn Mill - - -	- ditto - - -	- ditto - -	60 H. P.	400	30	430	-	-	-	430
3	Kyaungnu Mill - -	- ditto - - -	- ditto - -	100 H. P.	173	-	173	-	-	-	173
4	Nyaungwaing Mill - -	- ditto - - -	- ditto - -	30 H. P.	245	20	265	-	-	-	265
5	Kangôn Mill - - -	- ditto - - -	- ditto - -	35 H. P.	200	15	215	-	-	-	215
6	Thinbawgyun - - -	- ditto - - -	- ditto - -	50 H. P.	250	24	274	-	-	-	274
7	Ye-gyaw Mill - - -	- ditto - - -	- ditto - -	17 H. P.	274	9	283	-	-	-	283
8	Htônbo Mill - - -	- ditto - - -	- ditto - -	40 H. P.	500	2	502	-	-	-	502
9	Htônbo Saw-mill - -	Saw-mill - - -	- ditto - -	20 H. P.	49	-	49	-	-	-	49
10	Kungyan Saw-mill - -	- ditto - - -	- ditto - -	10 H. P.	14	-	14	-	-	-	14
11	Saint Peter's Institute Workshop.	Iron-works or foundries and general carpenters.	- ditto - -	3½ to 4 H. P.	26	-	26	-	-	-	26
				TOTAL - - -	2,781	150	2,931	-	-	-	2,931

Working of Factories in *Lower Burma* for the Year 1892.

THARRAWADDY DISTRICT.

Whether the Factory is worked mainly (1) by Shifts; or (2) by Mid-day Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether Factory exempted under Section 5-B. (2) (c); or (4) under Section 5-B. (2) (d) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Worked from 6 a.m. to 6 p.m., with stoppage of work from 10 to 11.30 a.m. daily.	General holiday on Sundays and festival days.	-	1 (*a*)	-	1	1	-	-	-	1	*Abstract of Factories.* No. Saw-mill - - 1 Factories inspected— Once during the year - - 1 (*a*) A sawyer whilst sawing got the fingers of his left hand cut. Reported verbally to Captain Pritchard, on 23rd June 1892.

Working of Factories in *Lower Burma* for the Year 1892.

BASSEIN DISTRICT.

Whether the Factory is worked mainly (1) by Shifts; or (2) by Mid-day Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether Factory exempted under Section 5-B. (2) (c); or (4) under Section 5-B. (2) (d) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Both factories worked by shifts.	Sunday is a general holiday.	-	-	-	-	2	-	2	1	5	*Abstract of Factories,* No. Iron-works or foundries; - - 1 Rice-mills - - 8 Saw-mills - - 2 Total - - - 11 Factories inspected— Once during the year - - - 0 Twice during the year - - - 0 Thrice during the year - - - 2 More than three times during the year - - 9
	- ditto - - ditto -	-	-	-	-	2	-	1	1	4	
By shifts - - -	- ditto - - ditto -	-	-	-	-	2	-	1	1	4	
By shifts and stoppages.	- ditto - - ditto -	-	-	-	-	2	-	1	1	4	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	1	1	4	
By shifts - - -	- ditto - - ditto -	-	-	-	-	2	-	2	1	5	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	2	1	5	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	2	1	5	
Mid-day stoppages -	- ditto - - ditto -	-	-	-	-	2	-	2	-	4	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	1	-	3	
- ditto - - -	Every Sunday and days of obligation in the church.	-	-	-	-	2	-	1	-	3	
	TOTAL - - -	-	-	-	-	22	-	16	8	46	

FORM No. I.—STATEMENT to accompany Annual Report on the

HANTHAWADDY DISTRICT.

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Chinvah Long (Ah Ton Shok), Kanaungto.	Rice-mill	Steam-engine	24 H. P.	23	2	25	–	–	–	25
2	Yeo Eng Byan, Kanaungto.	ditto	ditto	40 H. P.	125	15	140	–	–	–	140
3	U Ka Gyi and Maung Kyi Maung, Taikkyi.	ditto	ditto	20 H. P.	15	–	15	–	–	–	15
4	Long Shain Long, Kamakasit.	ditto	ditto	24 H. P.	24	–	24	–	–	–	24
5	Taikkyi Saw-mill	Saw-mill	ditto	12 H. P.	42	–	42	–	–	–	42
			TOTAL		229	17	246	–	–	–	246

FORM No. I.—STATEMENT to accompany Annual Report on the

PROME DISTRICT.

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Saw-mill, Prome	Cutting timber	Steam	65 H. P.	50	–	50	–	–	–	50

Working of Factories in *Lower Burma* for the Year 1892.

HAUTHAWADDY DISTRICT.

Whether the Factory is Worked mainly (1) by Shifts; or (2) by Midday Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether the Factory is exempted under Section 5-B. (2) (*c*); or (4) under Section 5-B. (2) (*d*) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By stoppages from 10 a.m. to 1 p.m.	General holiday given on Sunday.	–	–	–	–	2	—	–	–	2	*Abstract of Factories.* No.
By shifts of half-an-hour each.	– ditto – – ditto –	–	–	–	–	2	—	–	–	2	Rice-mills – – 4 Saw-mills – – 1 Total – – 5
By shifts – – –	– ditto – – ditto –	–	–	–	–	2	—	–	–	2	Factories Inspected—
By two shifts of half-an-hour each.	– ditto – – ditto –	–	–	–	–	2	—	–	–	2	Once during the year – – –
By stoppage from 10 to 11.30 a.m.	– ditto – – ditto –	–	–	–	–	2	—	–	–	2	Twice during the year – – 5 Thrice during the year – – – More than three times during the year – – –
	TOTAL – – –	–	–	–	–	10	—	–	–	10	

Working of Factories in *Lower Burma* for the Year 1892.

PROME DISTRICT.

Whether the Factory is Worked mainly (1) by Shifts; or (2) by Midday Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether the Factory exempted under Section 5-B. (2) (*c*); or (4) under Section 5-B. (2) (*d*) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Midday stoppages between 10 and 12 noon for two hours daily.	Factory closed on general holidays and on Sundays, except on one Sunday on 2nd May 1892 on urgent work. Section shown in this column have fully been applied to this factory.	–	–	1	1	2	—	–	–	2	*Abstract of Factories.* No. Steam saw-mill – 1 Total – – 1 Factories Inspected— Once during the year – – – Twice during the year – – 1 Thrice during the year – – – More than three times during the year – – –

FORM NO. I.—STATEMENT to accompany Annual Report on the

AMHERST DISTRICT (INCLUDING MOULMEIN).

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1 1a	Crisp & Co., Mopun	Rice and timber	Steam	Two engines 25 and 30 H. P.	45	–	45	6	–	6	51
2	Bulloch Brothers & Co., Mopun.	Rice	ditto	About 300 H. P.	60	–	60	–	–	–	60
3	Melosch & Co., Mopun	Rice	ditto	60 H. P.	22	–	22	–	–	–	22
	F. Foucar & Co., Mopun	Timber	ditto	Three engines 49 H. P., and one steam-frame 7 H. P.	120	–	120	–	–	–	120
5 5a	Findlay, Bodeker & Co., Mopun.	Rice and timber	ditto	Rice-mill 28 H. P., two steam saw-mills 41 and 28 H. P.	32 330	– –	32 330	– –	– –	– –	32 330
6 6a	Krüger & Co., Moungan	ditto	ditto	24 H. P.	142	–	142	–	–	–	142
7	J. Thompson	Rice	ditto	35 H. P.	34	–	34	–	–	–	34
8	Steel Brothers & Co., Ltd., Mopun.	Rice and timber	ditto	56 H. P., nominal	260	–	260	–	–	–	260
8a			ditto	23 H. P. „	220	–	220	–	–	–	220
9	Maung Shwe Byi, Moungan	Timber	ditto	One steam-engine 18 H. P., and one steam-frame 14 H. P.	30	–	30	–	–	–	30
10	Abdul Majid Brothers & Co., Nyaunglebin.	ditto	ditto	42 H. P.	78	–	78	–	–	–	78
11	Maung Ba Lin, Myangôn	ditto	ditto	25 H. P.	55	–	55	–	–	–	55
12	L. Lu Yôn, Posakôn	ditto	ditto	25 H. P.	56	–	56	–	–	–	56
13	Maung Po Ti, Pabèdan	ditto	ditto	45 H. P.	48	–	48	2	–	2	50
14	Memraj Murlidhur, Tavoyzu.	ditto	ditto	60 H. P.	80	–	80	3	–	3	83
15	Maung Yo Maung, Tavoyzu	Rice	ditto	28 H. P.	35	–	35	–	–	–	35
16	Mirza Abdul Hussain & Co., Nyaunglebin.	Timber	ditto	25 H. P.	48	–	48	2	–	2	50
17	H. Bullubdass, Nyaunglebin.	ditto	ditto	One engine 50 H.P., and the other 70 H. P.	186	–	186	–	–	–	186
18	Hin Chin & Co., Moungan	ditto	ditto	40 H. P.	132	–	132	4	–	4	136
19	Bhugwan Dass, *Rhai Bahadur*, Mopun.	ditto	ditto	32 H. P.	150	–	150	–	–	–	150
20	Maung Hlè, Mopun	ditto	ditto	61 H. P.	65	–	65	–	–	–	65
21	Maung Kho, Daingwunkwin.	ditto	ditto	25 H. P.	50	–	50	–	–	–	50
22	Hadjee Mahomed Usuf, Daingwunkwin.	ditto	ditto	—	–	–	–	–	–	–	–
23	The Bombay Burma Trading Corporation, Ltd., Natmaw.	ditto	ditto	81 H. P.	330	4	334	–	–	–	334
				TOTAL	2,608	4	2,612	17	–	17	2,629

Working of Factories in *Lower Burma* for the Year 1892.

AMHERST DISTRICT (INCLUDING MOULMEIN).

Whether the Factory is Worked mainly (1) by Shifts; or (2) by Midday Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether the Factory is exempted under Section 5-B. (2) (c); or (4) under Section 5-B. (2) (d) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
The rice-mill by shifts and saw-mill by stoppages.	General holidays on Sundays and on Native feast days.	–	–	–	–	2	—	3	–	5	*Abstract of Factories.*
By shifts - - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	No. Rice-mills - - 8
By a stoppage of 1½ hour.	- - ditto - - -	–	–	–	–	2	—	3	–	5	Saw-mills - - 19
By stoppages from 11 a.m. to 12.30 p.m.	- - ditto - - -	–	–	–	–	2	—	3	–	5	Total - - 27
By shifts - - - / By stoppages - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	Factories Inspected— Once during the year - - - Twice during the year - - - Thrice during the year - - -
Rice-mill by shifts and timber-mill by stoppages.	- - ditto - - -	–	1	1	2	2	—	3	–	5	More than three times during the year - - 22
By shifts - - -	- - ditto - - -	–	1	–	1	2	—	3	–	5	
By midday stoppages of 1½ hours.	- - ditto - - -	–	–	–	–	2	—	3	–	5	
By midday stoppages	- - ditto - - -	–	–	–	–	2	—	3	–	5	
- - ditto - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	
- - ditto - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	
- - ditto - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	
- - ditto - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	Half-yearly returns have not yet been received. Prosecution instituted under Section 15 of the Factories Act..
By shifts - - -	- - ditto - - -	–	–	–	–	3	—	3	–	6	
By midday stoppages	- - ditto - - -	–	–	–	–	3	—	3	–	6	
- - ditto - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	
- - ditto - -	- - ditto - - -	–	–	–	–	3	—	3	–	6	Accident occurred during the year, but was not reported till the following year.
- - ditto - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	
- - ditto - -	- - ditto - - -	–	1	1	2	2	—	3	–	5	
- - ditto - -	- - ditto - - -	–	–	–	–	3	—	3	–	6	
—	—	–	–	–	–	–	–	–	–	–	This mill was reported to have been closed for the last 18 months.
- - ditto - -	- - ditto - - -	–	–	–	–	2	—	3	–	5	
	TOTAL - - -	–	3	2	5	48	—	66	–	114	

FORM No. I.—STATEMENT to accompany Annual Report on the

TAVOY DISTRICT.

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total of Columns 8 and 11.
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Kyetsabyin quarter, Tavoy.	Rice and timber - -	Steam - - -	5 H. P.	60	–	60	5	–	5	65
2	Bônmaw quarter, Tavoy	- ditto - - -	Steam - - -	18 H. P.	8	–	8	4	2	6	14
3	Kyetsabin quarter, Tavoy	Timber-mill - - -	Steam - - -	20 H. P.	20	–	20	–	–	–	20
				TOTAL - - -	88	–	88	9	2	11	99

Two mills having worked both rice and timber,

FORM No. I.—STATEMENT to accompany Annual Report on the

TOUNGOO DISTRICT.

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						
					Adults.			Children.			Total of Columns 8 and 11.
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Minlangôn - - -	Saw-mill - - -	Steam - - -	50 H. P.	40	–	40	–	–	–	40

Working of Factories in *Lower Burma* for the Year 1892.

TAVOY DISTRICT.

Whether the Factory is Worked mainly (1) by Shifts; or (2) by Midday Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether the Factory is exempted under Section 5-B. (2) (c); or (4) under Section 5-B. (2) (d) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					Remarks.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Worked by shifts and stoppages.	General holiday on Sundays.	–	–	–	–	1	–	–	–	1	*Abstract of Factories.* No. Rice-mills - - 2; Saw-mills - - 3; Total - - 5
Midday stoppage -	- - ditto - - -	–	–	–	–	1	–	–	–	1	Factories Inspected— Once during the year - - - 3; Twice during the year - - - -; Thrice during the year - - - -; More than three times during the year - - -
- ditto - - -	General holiday one day during the week.	–	–	–	–	1	–	–	–	1	
	Total - - -	–	–	–	–	3	–	–	–	3	

have been shown as four mills in the abstract.

Working of Factories in *Lower Burma* for the Year 1892.

TOUNGOO DISTRICT.

Whether the Factory is Worked mainly. (1) by Shifts; or (2) by Midday Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given. (1) on Sundays; or (2) on varying Week Days; or (3) whether the Factory is exempted under Section 5-B. (2) (c); or (4) under Section 5-B. (2) (d) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					Remarks.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Midday stoppage -	General holiday on Sundays.	–	–	–	–	1	–	–	–	1	*Abstract of Factories.* No. Saw-mill - - - 1; Total - - 1
											Factories Inspected— Once during the year - - - 1; Twice during the year - - - -; Thrice during the year - - - -; More than three times during the year - - -

FORM No. I.—STATEMENT to accompany Annual Report on the

RANGOON DISTRICT.

Serial No.	Name and Locality of Factory.	Name of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Males.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Mohr Brothers & Co., Limited, Kemmendine.	Rice-mill	Steam-engine	600 H. P.	900	100	1,000	–	–	–	1,000
2	Bulloch Brothers & Co., Kemmendine.	ditto	ditto	550 H. P.	260	40	300	–	–	–	300
3	Foucar Brothers & Co., Alôn	Saw-mill	ditto	86 H. P.	213	–	213	–	–	–	213
4	Macgregor & Co., Alôn	ditto	ditto	300 H. P.	300	–	300	–	–	–	300
5	See Shain Lôn, Alôn	ditto	ditto	40 H. P.	100	–	100	–	–	–	100
6	D. D. Coath, Alôn	ditto	ditto	600 H. P.	171	–	171	–	–	–	171
7	Molla, Mahomed, Alôn	Oil-mill	ditto	20 H. P.	30	1	31	–	–	–	31
8	Munshi Murad Bux, Alôn	Saw-mill	ditto	30 H. P.	80	–	80	–	–	–	80
9	Burma Ice Company, Limited, Alôn.	Ice-works	ditto	135 H. P.	34	–	34	–	–	–	34
10	J. A. Elias, Alôn	ditto	ditto	20 H. P.	20	–	20	–	–	–	20
11	Molla Mucksud, Botataung	Saw-mill	ditto	70 H. P.	125	–	125	–	–	–	125
12	Loon Pat & Co., Botataung	ditto	ditto	40 H. P.	98	–	98	–	–	–	98
13	Hadji Zamaludin, Botataung	ditto	ditto	40 H. P.	109	–	109	–	–	–	109
14	A. C. Hoare, Botataung	Foundry	ditto	12 H. P.	16	–	16	–	–	–	16
15	Hadj Mahomed Bulu Sircar, Botataung.	Saw-mill	ditto	24 H. P.	36	–	36	–	–	–	36
16	Munshi Mansur Ahmedji Botataung.	ditto	ditto	50 H. P.	53	–	53	–	–	–	53
17	Bombay Burma Trading Corporation, Limited, Botataung.	ditto	ditto	300 H. P.	500	–	500	–	–	–	500
18	Bombay Burma Trading Corporation, Limited, Danidaw.	ditto	ditto	60 H. P.	300	–	300	–	–	–	300
19	Steel Brothers & Co., Limited, Danidaw.	Cotton press	Hydraulic	—	50	–	50	–	–	–	50
20	Finlay, Fleming & Co., Danidaw.	Oil-works	Steam-engine	250 H. P.	427	–	427	–	–	–	427
21	Molla Mucksud, Danidaw	Ice-works	ditto	70 H. P.	122	–	122	–	–	–	122
22	Arracan Company, Limited, Danidaw.	Rice-mill	ditto	200 H. P.	400	–	400	–	–	–	400
23	Bulloch Brothers & Co., Lower Pazundaung.	ditto	ditto	800 H. P.	260	40	300	–	–	–	300
24	ditto	Foundry	ditto	100 H. P.	197	–	197	–	–	–	197
25	Arracan Company, Limited, Lower Pazundaung.	Rice-mill	ditto	350 H. P.	800	10	810	1	–	1	811

Working of Factories in *Lower Burma* for the Year 1892.

RANGOON DISTRICT.

Whether the Factory is worked mainly (1) by Shifts; or (2) by Mid-day Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether Factory is exempted under Section 5-B. (2) (c); or (4) under Section 5-B. (2) (d) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					Remarks.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By shifts	General holiday on Sundays.	–	–	–	–	Twice	—	Twice	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
By stoppages	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditta ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
By shifts	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	Exempted under section 5-B. (2) (c).	–	–	–	–	ditto	—	ditto	–	4	
By stoppages	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	General holiday on Sundays.	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	1	–	–	1	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	1	–	1	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
By shifts	Exempted under section 5-B. (2) (c).	–	–	–	–	ditto	—	ditto	–	4	
ditto	General holiday on Sundays.	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	Thrice	–	5	
By stoppages	ditto ditto	–	1	–	1	ditto	—	Twice	–	4	
By shifts	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	
ditto	ditto ditto	–	–	–	–	ditto	—	ditto	–	4	

Abstract of Factories.

	No.
Cotton presses	1
Iron-works and Foundries.	4
Printing presses	2
Rice-mills	22
Saw-mills	13
Ice-works	3
Oil-works	2
Total	47

Factories inspected—

Once during the year	–
Twice during the year	–
Thrice during the year	–
More than three times during the year	46

FORM No. I.—STATEMENT to accompany Annual Report on the

RANGOON DISTRICT—*continued.*

Serial No.	Name and Locality of Factory.	Name of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5.	6.	7.	8	9.	10.	11.	12.
26	Steel Brothers & Co., Limited, Lower Pazundaung.	Rice-mill	Steam-engine	1,500 H. P.	800	20	820	–	–	–	820
27	Hadji Mahomed Hady, Lower Pezundaung.	ditto	Used as a godown for storing paddy during the year 1892.						–	–	–
28	Krüger & Co., Lower Pazundaung.	ditto	Steam-engine	44 H. P.	60	–	60	–	–	–	60
29	Steel Brothers & Co., Limited, Lower Pazundaung.	ditto	ditto	105 H. P.	250	–	250	–	–	–	250
30	Khoo Zeow, Upper Pazundaung.	ditto	ditto	19 H. P.	225	20	245	–	–	–	245
31	Steel Brothers & Co., Limited, Upper Pazundaung.	ditto	ditto	1,000 H. P.	670	–	670	–	–	–	670
32	Diekmann, Barckhausen & Co., Upper Pazundaung.	ditto	ditto	95 H. P.	30	–	30	–	–	–	30
33	Bulloch Brothers & Co., Upper Pazundaung.	ditto	ditto	400 H. P.	150	20	170	–	–	–	170
34	Mohr Brothers & Co., Limited, Upper Pazundaung.	ditto	ditto	1,200 H. P.	1,249	35	1,284	–	–	–	1,284
35	Mohr Brothers & Co., Limited, Dabôn.	ditto	ditto	150 H. P.	1,150	–	1,150	–	–	–	1,150
36	Zaretzky, Bock & Co., Dabôn	ditto	ditto	100 H. P.	200	10	210	–	–	–	210
37	Bhugwan Dass, *Rai Bahdur*, Dabôn.	ditto	ditto	87 H. P.	26	–	26	–	–	–	26
38	Chin Hoe & Co., Limited, Dabôn.	ditto	ditto	60 H. P.	150	12	162	–	–	–	162
39	Arracan Company, Limited, Dabôn.	ditto	ditto	386 H. P.	470	85	555	29	22	51	606
40	Bombay Burma Trading Corporation, Limited, Dala.	Saw-mill	ditto	105 H. P.	489	–	489	13	–	13	502
41	Irrawaddy Flotilla Company, Limited, Dala.	Dockyard	ditto	120 H. P.	600	–	600	–	–	–	600
42	Shain Fat Lou, Dala	Rice-mill	ditto	16 H. P.	33	–	33	–	–	–	33
43	Mower & Co., Dala	ditto	ditto	50 H. P.	29	–	29	–	–	–	29
44	Hetherington, Gray & Co., Dala.	ditto	ditto	75 H. P.	385	20	405	–	–	–	405
45	Municipality, Dalhousie-street.	Workshop	ditto	12 H. P.	65	–	65	–	–	–	65
46	American Baptist Mission, 35th-street.	Printing press	ditto	6 H. P.	93	–	93	–	–	–	93
47	Government, Merchant-street	ditto	ditto	5 H. P.	394	–	394	80	–	80	474
			TOTAL	—	13,119	413	13,532	123	22	145	13,677

Working of Factories in *Lower Burma* for the Year 1892.

RANGOON DISTRICT—*continued.*

Whether the Factory is worked mainly (1) by Shifts; or (2) by Mid-day Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether Factory exempted under Section 5-B. (2) (*c*); or (4) under Section 5-B. (2) (*d*) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
By shifts - - -	General holiday on Sunday.	-	-	-	-	Twice	—	Twice -	-	4	
—	—	-	-	-	-	-	—	-	-	-	
By shifts - - -	- ditto - ditto -	-	2	-	2	Twice	—	Twice -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By stoppages - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By shifts - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By stoppages - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By shifts - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	Thrice	-	5	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	Twice -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By stoppages - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By shifts - - -	General holiday on varying week days.	-	-	-	-	ditto	—	ditto -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By stoppages - -	- ditto - ditto -	-	1	1	2	ditto	—	ditto -	-	4	
- ditto - - -	- ditto - ditto -	-	1	-	1	ditto	—	ditto -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By shifts - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
By stoppages - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
- ditto - - -	- ditto - ditto -	-	-	-	-	ditto	—	ditto -	-	4	
—	—	1	6	1	8	-	—	-	-	-	

FORM No. I.—STATEMENT to accompany Annual Report on the

AKYAB DISTRICT.

Serial No.	Name and Locality of Factory.	Nature of Industry.	Nature of Moving Power.	Amount of Moving Power.	Average Daily Number of Operatives Employed.						Total of Columns 8 and 11.
					Adults.			Children.			
					Male.	Female.	Total.	Male.	Female.	Total.	
1.	2.	3.	4.	5	6.	7.	8.	9.	10.	11.	12.
1	Messrs. Bulloch Brothers & Co., north side of Satyogya creek.	Rice-milling - -	Steam - -	800 H. P. -	300	1	301	-	-	-	301
2	Messrs. Steel Brothers & Co., Limited, north side of Satyogya creek.	- ditto - - -	- ditto - -	57 nominal H. P.	310	2	312	15	-	15	327
3	Messrs. Steel Brothers & Co., Limited, at Lanmadaw.	- ditto - - -	- ditto - -	40 H. P. - -	212	1	213	10	-	10	223
4	Messrs. Mohr Brothers & Co., Limited, north side of Satyogya creek.	- ditto - - -	- ditto - -	100 H. P. -	351	-	351	15	-	15	366
5	Messrs. Mohr Brothers & Co., Limited, at Singulan.	- ditto - - -	- ditto - -	40 nominal H. P.	76	-	76	-	-	-	76
6	The Arracan Company, Limited, at Singulan.	- ditto - - -	- ditto - -	60 nominal H. P.	31	-	31	-	-	-	31
7	The Arracan Company, Limited, at Singulan.	- ditto - - -	- ditto - -	40 nominal H. P.							
8	Messrs. Krüger & Co., at Singulan.	- ditto - - -	- ditto - -	96 nominal H. P.	85	-	85	-	-	-	85
9	Messrs Backman, Wheatley & Co., at Ywagyi.	Rice-milling and timber.	- ditto - -	30 nominal H. P.	25	-	25	-	-	-	25
				Total - - -	1,390	4	1,394	40	-	40	1,434

One mill having worked both as a rice and a timber-mill, has been shown as two mills in the abstract.

Working of Factories in *Lower Burma* for the Year 1892.

AKYAB DISTRICT.

Whether the Factory is worked mainly (1) by Shifts; or (2) by Mid-day Stoppages; or (3) otherwise.	Whether a General Holiday is ordinarily given (1) on Sundays; or (2) on varying Week Days; or (3) whether Factory exempted under Section 5-B (2) (*c*); or (4) under Section 5-B (2) (*d*) of the Act; or (5) otherwise worked.	Number of Accidents Reported during the Year.				Number of Inspections held during the Year.					REMARKS.
		Fatal.	Serious.	Minor.	Total.	By Magistrate.	By Special Inspector of Factories.	By Medical Officer.	By other Officers (if any).	Total.	
13.	14.	15.	16.	17.	18.	19.	26.	21.	22.	23.	24.
Shifts - - -	General holiday on Sundays.	-	-	-	-	2	-	-	-	2	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	-	-	2	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	-	-	2	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	-	-	2	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	-	-	2	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	-	-	2	
- ditto - - -	- ditto - - ditto -	-	-	-	-	2	-	-	-	2	
	Total - - -	-	-	-	-	16	-	-	-	16	

Abstract of Factories.

	No.
Rice-mills - -	9
Saw-mill - - -	1
Total - -	10

Factories Inspected—

Once during the year - - - —

Twice during the year - - - 9

Thrice during the year - - - —

More than three times during the year - - —

FORM No. II.—STATEMENT to accompany Annual Provincial Report.

NAME.	Number of Factories within the Scope of the Act.													
	Cotton Mills.	Jute Mills.	Woollen Mills.	Paper Mills.	Breweries.	Flour Mills.	Cotton Cleaning Factories.	Cotton Presses.	Jute Presses.	Leather Works.	Ironworks or Foundries.	Sugar Works.	Printing Presses.	Rice Mills.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	14*a*.
ARAKAN DIVISION:														
Akyab	–	–	–	–	–	–	–	–	–	–	–	–	–	9
Northern Arakan	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Kyaukpyu	–	–	–	–	–	–	–	–	0	–	–	–	–	–
Sandoway	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	–	–	–	–	–	–	–	–	–	–	–	–	–	9
PEGU DIVISION:														
Rangoon Town	–	–	–	–	–	–	–	1	–	–	4	–	2	21
Hanthawaddy	–	–	–	–	–	–	–	–	–	–	–	–	–	4
Pegu	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tharrawaddy	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Prome	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	–	–	–	–	–	–	–	1	–	–	4	–	2	25
IRRAWADDY DIVISION:														
Thôngwa	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Bassein	–	–	–	–	–	–	–	–	–	–	1	–	–	8
Henzada	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Thayetmyo	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	–	–	–	–	–	–	–	–	–	–	1	–	–	8
TENASSERIM DIVISION:														
Amherst	–	–	–	–	–	–	–	–	–	–	–	–	–	8
Tavoy	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Mergui	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Toungoo	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Shwegyin	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Salween	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	–	–	–	–	–	–	–	–	–	–	–	–	–	10
GRAND TOTAL. LOWER BURMA	–	–	–	–	–	–	–	1	–	–	5	–	2	52

(*a*) One mill having worked both as a rice and a timber mill has been shown as two mills.
(*b*) One rice mill since used as a godown for storing paddy during the year 1892 not included in the statement.
(*c*) Twenty-two mills in all, but four mills having worked both rice and timber, have been shown as eight mills. One timber mill reported to have been closed for the last 18 months not included in the statement.

on the Working of Factories in *Lower Burma* for the year 1892.

					Number of Factories entered in Columns 2 to 16.			Number of Factories entered in Columns 2 to 16.						
								Inspected during the year.					Not Inspected during the Year.	Total of Columns 24 and 25.
Timber Saw Mills.	Ice Works.	Oil Works.	Other Factories within Scope of the Act.	Total of Columns 2 to 15.	In which Steam Power is used.	In which Steam Power is not used.	Total, Columns 17 and 18.	Once only.	Twice (but not three Times).	Three Times.	More than three Times.	Total of Columns 20 to 23.		
14*b*.	14*c*.	14*d*.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
1	–	–	–	(*a*) 10	10	–	10	–	10	–	–	10	–	10
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1	–	–	–	10	10	–	10	–	10	–	–	10	–	10
13	3	2	–	(*b*) 46	45	1	46	–	–	–	46	46	–	46
1	–	–	–	5	5	–	5	–	5	–	–	5	–	5
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1	–	–	–	1	1	–	1	1	–	–	–	1	–	1
1	–	–	–	1	1	–	1	–	1	–	–	1	–	1
16	3	2	–	53	52	1	53	1	6	–	46	53	–	53
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	–	–	–	11	11	–	11	–	–	2	9	11	–	11
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	–	–	–	11	11	–	11	–	–	2	9	11	–	11
18	–	–	–	(*c*) 26	26	–	26	–	–	–	26	26	–	26
3	–	–	–	(*d*) 5	5	–	5	5	–	–	–	5	–	5
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1	–	–	–	1	1	–	1	1	–	–	–	1	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22	–	–	–	32	32	–	32	6	–	–	26	32	–	32
41	3	2	–	106	105	1	106	7	16	2	81	106	–	106

(*d*) Two mills having worked both rice and timber, have been shown as four mills.

FORM No. II.—STATEMENT to accompany Annual Provincial Report

NAME OF DISTRICT.	Average daily Number of Operatives employed on the Factories entered in Columns 2 to 16.							Number of Factories entered in Columns 2 to 16 worked mainly by				Number of	
	Adults.			Children.			Total of Columns 29 and 32.	Shifts or Sets.	Mid-day Stoppages.	Otherwise.	Total of Columns 34 to 36.	On which General Holiday ordinarily given.	
	Male.	Female.	Total.	Male.	Female.	Total.						On Sundays.	On varying Week Days.
	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.
ARAKAN DIVISION:													
Akyab	1,390	4	1,394	40	–	40	1,434	10	–	–	10	10	–
Northern Arakan	–	–	–	–	–	–	–	–	–	–	–	–	–
Kyaukpyu	–	–	–	–	–	–	–	–	–	–	–	–	–
Sandoway	–	–	–	–	–	–	–	–	–	–	–	–	
Total	1,390	4	1,394	40	–	40	1,434	10	–	–	10	10	–
PEGU DIVISION:													
Rangoon Town	13,119	413	13,532	123	22	145	13,677	22	24	–	46	43	–
Hanthawaddy	229	17	246	–	–	–	246	3	2	–	5	5	–
Pegu	–	–	–	–	–	–	–	–	–	–	–	–	–
Tharrawaddy	30	–	30	–	–	–	30	–	1	–	1	1	–
Prome	50	–	50	–	–	–	50	–	1	–	1	1	–
Total	13,428	430	13,858	123	22	145	14,003	25	28	–	53	50	–
IRRAWADDY DIVISION:													
Thôngwa	–	–	–	–	–	–	–	–	–	–	–	–	–
Bassein	2,781	150	2,931	–	–	–	2,931	8	5	–	13*	11	–
Henzada	–	–	–	–	–	–	–	–	–	–	–	–	–
Thayetmyo	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	2,781	150	2,931	–	–	–	2,931	8	5	–	13*	11	–
TENASSERIM DIVISION:													
Amherst	2,608	4	2,612	17	–	17	2,629	6	20	–	26	26	–
Tavoy	88	–	88	9	2	11	99	1	4	–	5	4	1
Mergui	–	–		–	–	–	–	–	–	–	–	–	–
Toungoo	40	–	40	–	–	–	40	–	1	–	1	1	–
Shwegyin	–	–	–	–	–	–	–	–	–	–	–	–	–
Salween	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	2,736	4	2,740	26	2	28	2,768	7	25	–	32	31	1
GRAND TOTAL LOWER BURMA	20,335	588	29,923	189	24	213	21,136	50	58	–	108*	102	1

* Two mills worked by shifts and stoppages.

on the Working of Factories in *Lower Burma* for the year 1892—*continued.*

Factories entered in Columns 2 to 16.				Number of Accidents during the Year on Factories entered in Columns 2 to 16.				Number of Persons Convicted during the Year in respect of Factories entered in Columns 2 to 16.											
Exempted		Worked "otherwise," *i.e.*, not falling under Columns. 38 to 41.	Total of Columns 38 to 42.	Fatal.	Serious.	Minor.	Total.	Under Section 15 (1) of the Factories Act, Clauses										Under Section 15 (2) of the Factories Act.	Total of Columns 57 and 58.
Under Section 5 B (2) (*c*).	Under Section 5 B (2) (*d*).							*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	Total (*a*) to (*i*).		
40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.
–	–	–	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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ABSTRACT STATEMENT compiled from the Indian Factory Reports, for the Year 1892.

Province.	Number of Factories coming under Act.	Total Number of Inspections made during the Year.	Average daily Number of Hands employed.				Number of Factories with				Number of Accidents during Year.				Number of Persons convicted of Breaches of the Factory Law.
			Men.	Women.	Children.	Total.	Sunday Holiday.	Other Weekly Holiday.	Exempted from Rule about Sunday Stoppages.	Worked otherwise.	Fatal.	Serious.	Minor.	Total.	
Madras	46	124	20,198	2,250	1,424	23,872	41	1	–	4	3	17	111	131	None.
Bombay	253	798	89,680	22,844	5,946	118,470	201	49	1	2	13	79	639	731	1
Bengal	150	369	94,985	15,774	9,248	120,007	95	4	51	–	7	171	160	338	4
North-West Provinces and Oudh	47	74	16,631	615	1,125	18,371	32	7	4	4	4	24	50	78	None.
Panjab	35	23	6,290	289	159	6,738	25	7	1	1	2	6	12	20	None.
Central Provinces	16	24	6,217	1,232	772	8,221	7	7	–	2	1	11	44	56	1
Burma	106	369	20,335	588	213	21,136	92	11	3	–	1	10	4	15	None.
Total	653	1,781	254,336	43,592	18,887	316,815	493	86	60	13	31	318	1,020	1,369	6

EAST INDIA WHEAT.

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IMPURITY OF INDIAN WHEAT

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1885—90.

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[C. 7421.] Ditto. Summary of Evidence, Appendices, and Index. Part II. Price 5*s.* 9*d.*

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Papers regarding the Impurity of Indian Wheat, and the establishment of Warehouses for cleaning and grading Wheat, or for Storage.

CONTENTS.

Page

1. Government of India, to Local Governments, No. 67–42–4, dated 16th May 1885.
   Asks for a report after discussion with commercial public on the question of the construction of warehouses near railway stations for storing and cleaning wheat, &c., intended for exportation 7

ENCLOSURES TO No. 1.

2. Resolution by Government, Punjab, No, 95, dated 19th March 1885.
   Review of the Wheat Trade of the Punjab, and measures to facilitate and develop it - - - 7
3. Annexure to above.
   Extract from notes by Messrs. McDougall Brothers, dated London, 15th December 1882, on the Quality and Value of Indian Wheats in European markets - - - - - 14
4. Messrs. Reinhold Brothers, Cawnpore, to Government, North-Western Provinces and Oudh, dated August 1883.
   Scheme for Cleaning and Grading Warehouse under Government Supervision - - - 15
5. Director, Department of Land Records and Agriculture, North-Western Provinces and Oudh, to Local Government, No. 48 T., dated 25th July 1884 (extract).
   Opinion on Messrs. Reinhold Brothers' scheme - - - - - - - 17

REPLIES TO No. 1 (CIRCULAR DATED 16TH MAY 1885).

MADRAS.

6. Resolution by Government, Madras, No. 922, dated 11th August 1885.
   Action taken by Local Fund Boards in providing warehouses for storage - - - 18
7. Resolution by Government, Madras, No. 3267, dated 4th June 1886.
   Working of warehouse near Arcot railway station - - - - - - 19

BOMBAY.

8. Government of Bombay, to Government of India, No. 6606, dated 17th September 1886.
   Forwards Nos. 9 to 12, and inquiries whether warehouses should be provided by the Local Government, Railway Companies, or the Trade - - - - - - 19
9. Commissioner, Central Division, to Government of Bombay, No. 634 R., dated 11th February 1886.
   Forwards précis of Reports of Collectors, Central Division, and states that in his opinion warehouses should be erected by private persons where they are wanted - - - - 19
10. Précis of Reports of Collectors, Central Division - - - - - - - 20
11. Resolution by Government, Bombay, Public Works Department, Railway, No. 781, dated 29th March 1886.
    Reviews replies of Railway Companies, asks for the opinion of the Bombay Chamber of Commerce as to localities where warehouses would be most desirable - - - - 20
12. Resolution by Government, Bombay, Public Works Department, Railway, No. 1676, dated 27th July 1886.
    Reply of the Bombay Chamber of Commerce, and orders thereon - - - - 22
13. Resolution by Government, Bombay, Public Works Department, No. 645 C.W., dated 8th November 1886.
    Replies of Superintending Engineers, Southern and Northern Divisions, regarding the localities at which warehouses and sheds might be provided. Question of the provision of funds. Working of a warehouse at Nadiad - - - - - - - - 24

BENGAL.

14. Director, Department of Land Records and Agriculture, to Government, Bengal, No. 891 T., dated 7th July 1886.
    Forwards papers 15 to 23, and reports on present condition, practices, and requirements of the Wheat Cultivation and Trade of Bengal - - - - - - - 24
15. Director, Department of Land Records and Agriculture, to Assistants to Directors, Nos. 414–16, dated 2nd September 1885.
    Letter of instructions noting points requiring investigation - - - - - - 28
16. Mr. D. B. Allen, Assistant to Director, Department of Land Records and Agriculture, to Commissioner, Patna Division, dated 2nd December 1885.
    Wheat Cultivation and Trade of the Patna Division - - - - - - 30
17. Officiating Collector, Shahabad, to Commissioner, Patna Division, No. 1826 G., dated 10th October 1885.
    Wheat Cultivation and Trade at the Shahabad District - - - - - - 33

e 80710. Wt. P. 2070.

Page

18. Officiating Commissioner, Bhagulpore and Sonthal Parganas, to Government, Bengal, No. 1047 C.T., dated 31st January 1886.
Wheat Cultivation and Trade of the Bhagulpore Division - - - - - - 38
19. Assistant to Director, to Director, Department of Land Records and Agriculture, Bengal, dated Bhagulpore, No. 255. dated the 30th November 1885.
Reply to No. 15 - - - - - - - - - - 39
20. Assistant to Director, to Director, Department of Land Records and Agriculture, Bengal, No. 322, dated Bhagulpore, the 15th December 1885.
Further reply to No. 15 - - - - - - - - - - 40
21. Commissioner, Presidency Division, to Government, Bengal, No. 7 M.A., dated 27th January 1886.
Wheat Cultivation and Trade of the Presidency Division - - - - - - 40
22. Covenanted Deputy Collector in charge Murshedabad, to Commissioner, Presidency Division, No. 2310 G., dated 30th January 1886.
Wheat Cultivation and Trade of the Murshedabad District - - - - - - 41
23. Bengal Chamber of Commerce, to Government, Bengal, dated 13th November 1885.
Opinion of the Chamber on the measures necessary and possible for the improvement of the Wheat Trade - - - - - - - - - - - - 42
24. Director, Department of Land Records and Agriculture, Bengal, to Government, Bengal, No. 692, dated 27th July 1886.
Correspondence with Chamber of Commerce on reduction of refraction for wheat: no alteration possible in present circumstances of trade - - - - - - - - 43
25. Government, Bengal, to Director, Department of Land Records, and Agriculture, No. 1899–304, dated 10th August 1886.
Orders on Director's Report on Wheat Cultivation and Trade of Bengal (No 14) and on correspondence regarding refraction (No. 24) - - - - - - - - 44
26. Government, Bengal, to Chamber of Commerce, No. 1896–301, dated 10th August 1886.
Expresses a hope that a reduction in the standard of refraction for wheat will be found possible at no distant date - - - - - - - - - - 44
27. Chamber of Commerce, to Government, Bengal, dated 15th September 1886.
Replies to No. 26 - - - - - - - - - - 44
28. Director, Department of Land Records and Agriculture, Bengal, to Government, Bengal, No. 1,265, dated 18th August 1887.
Comments on the letter of the Chamber of Commerce, Bengal (No. 27), and forwards Nos. 29 to 35 - - - - - - - - - - - - 45
29. Director, Department of Land Records and Agriculture, Bengal, to Messrs. Ralli Brothers, Vale King & Co., and Petrocochino & Co., dated 2nd April 1887.
Asks whether a higher price would be given for clean wheat - - - - - - 52
30. Messrs. Ralli Brothers, to Director, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.
Reply to No. 29 - - - - - - - - - - - 52
31. Messrs. Vale, King, & Co., to Director, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.
Reply to No. 29 - - - - - - - - - - - 53
32. Messrs. Ralli Brothers, to Director, Department of Land Records and Agriculture, Bengal, dated 23rd May 1887.
Valuation Report on samples of wheat threshed by steam and on the native method - - - 53
33. Wheat and Seed Trade Association, Calcutta, to Director, Department of Land Records and Agriculture, Bengal, dated 2nd June 1887.
Valuation Report on samples of wheat threshed by steam and on the native method - - - 54
34. Messrs. Ralli Brothers, to Director, Department of Land Records and Agriculture, Bengal, dated 21st July 1887.
Experimental shipment to Marseilles of clean wheat - - - - - - - - 54
35. Statement.
Appraisement of wheat samples from various districts by the Chamber of Commerce, Bengal - 56
36. Government of Bengal, to Director, Department of Land Records and Agriculture, Bengal, No. 3421–608, dated 16th November 1887.
Acknowledging No. 28, agrees that Government cannot urge cultivation or sale of pure wheat on agriculturists till the conditions of trade alter, and a demand for such wheat at better prices is created - - - - - - - - - - - - 56

North-Western Provinces and Oudh.

37. Government, North-Western Provinces and Oudh, to Government of India, No. 1172–1–85, dated 6th July 1885.
States that no special measures appear to be required for the provision of storage accommodation 57
38. Note by the Department of Land Records and Agriculture, North-Western Provinces and Oudh, dated 14th January 1887.
Probable causes of the exportation of dirty wheat and measures feasible for facilitating trade and removing admixture of foreign substances - - - - - - - - 57

Punjab.

39. Government of the Punjab, to Government of India, No. 259, dated 23rd December 1886.
Forwards Nos. 40 and 41, and states that attention having been drawn to the subject, and a commencement made in providing storage for grain at the principal exporting stations, no further step seems required at present - - - - - - - - - 65
40. Financial Commissioner, Punjab, to Government, Punjab, No. 1025, dated 26th November 1886.
Forwards No. 41, showing the result of inquiries into the storage accommodation provided or required at different stations - - - - - - - - - - 65

Page

41. Précis of correspondence forwarded by Financial Commissioner, Punjab - - - - 66
42. Chamber of Commerce, Karachi, to Government of India, dated 26th October 1886
Considers the construction of warehouses a very desirable measure - - - - 67
43. Government of India, Public Works Department, to Government of India, Revenue and Agricultural Department, No. 753 R. T., dated 22nd August 1885.
Forwards reports from Managers, Punjab Northern and Indus Valley State Railways on demurrage charges levied on those railways and the provision of warehouses, with the remark that the Public Works Department concurs in the opinions expressed by those officers - - 67
44. Officiating Manager, Punjab Northern State Railway, to Director-General of Railways, No. 3,113, dated 17th June 1885.
States that the construction of warehouses as depots of trade do not come within the province of railway management - - - - - - - - - - - 67
45. Manager, Indus Valley State Railway, to Director-General of Railways, No. 370, dated the 3rd August 1885.
Objects to the abolition of demurrage charges, and states that, with the exception of Sukkur, where storage room is much needed, warehouses would not be required if octroi were abolished - - - - - - - - - - - - 68

CENTRAL PROVINCES.

46. Chief Commissioner, Central Provinces, to Government of India, No. 9,038, dated 28th Oct. 1886.
Forwards No. 47, and states that Government having provided the land it must be left to private enterprise to erect warehouses where required - - - - - - - 69
47. Chief Commissioner, Central Provinces, to Government of Bombay, Public Works Department, No. 753, dated 10th September 1886.
Explains that the action taken in the Central Provinces has been confined to acquiring plots of land in the vicinity of railway stations - - - - - - - 69

BERAR.

48. Resident, Hyderabad, to Government of India, No. 454, dated 13th December 1886.
Forwards Nos. 49 to 55, and states that the demands of trade are making the people alive to the necessity for a more extended cultivation of wheat, and direct encouragement on the part of Government is not needed - - - - - - - - - - 69
49. Commissioner, Hyderabad Assigned Districts, to Resident Hyderabad, No. 5,913, dated 22nd November 1886.
Forwards replies of District Officers and of the Agricultural Association, Amraoti, and explains action taken in advising and distributing good seed to cultivators and the needs of the trade as regards railways and storage accommodation - - - - - - - 70
50. Deputy Commissioner, Buldana District, to Commissioner, Hyderabad Assigned Districts, No. 1,611, dated 25th June 1885.
States that sheds are not required as grain can be safely stored in the open air for eight months, but metalled roads and bridges are needed - - - - - - - - - 71
51. Deputy Commissioner, Ellichpur District, to Commissioner, Hyderabad Assigned Districts, No. 1,863, dated 18th August 1885.
States that economical difficulties, such as impurities in wheat, must be left to cultivators and traders, while administrative and physical difficulties are being met by Government in the construction of roads and railways - - - - - - - - 71
52. Deputy Commissioner, Amraoti District, to Commissioner, Hyderabad Assigned Districts, No. 544, dated 11th September 1885.
Reports that the want of warehouses is not felt, and that the improvement of seed appears to be the only direction in which action can be usefully taken - - - - - - 72
53. Deputy Commissioner, Akola District, to Commissioner, Hyderabad Assigned Districts, No. 1,478, dated 18th October 1886.
States that no action has as yet been taken by municipalities to provide warehouses, the want of which is not keenly felt - - - - - - - - - - 72
54. Deputy Commissioner, Bassim District, to Commissioner, Hyderabad Assigned Districts, No. 3,045, dated 31st October 1885.
States his opinion that the remedy for improved and pure wheat lies in the hands of the traders 73
55. Secretary, Agricultural Association, Amraoti, to Commissioner, Hyderabad Assigned Districts, No. 111, dated 10th August 1885.
Submits the suggestions of the Association for the encouragement and increase of wheat cultivation and for the development and improvement of the wheat trade - - - - 73

AJMERE.

56. Chief Commissioner, Ajmere-Merwara, to Government of India, No. 742–250, dated 11th July 1888.
Forwards reports of local authorities, and states that the wheat trade of Ajmere is insignificant, and means of transport more than sufficient - - - - - - - - 74
57. Commissioner, Ajmere-Merwara, to Chief Commissioner, Ajmere-Merwara, No. 1,656 R., dated 2nd July 1888.
Forwards reports of Assistant Commissioners, and states that there is no need and very little scope at present for administrative action in behalf of the wheat trade - - - - - 75
58. Assistant Commissioner, Merwara, to Commissioner, Ajmere-Merwara, No. D.—122 M., dated 7th June 1888.
Reports on the Wheat Cultivation and Trade of Merwara - - - - - - 75
59. Assistant Commissioner, Ajmere, to Commissioner, Ajmere-Merwara, No. 63, dated 16th January 1888.
States that wheat cultivation is insignificant, no want of facilities for trade exists, and improvement may be left to the self-interest of the people - - - - - - - 76

Page

APPENDICES TO PART I.

Appendix A.

Correspondence in 1886, 1887, and 1888, between the Bombay Chamber of Commerce and the various Corn Trade Associations in the United Kingdom regarding measures for the improvement in the cleanliness of Indian Wheat. (Reprinted from the Chamber's Annual Reports.)

1. Bombay Chamber of Commerce to Chairman, Corn Trade Association, London, Liverpool, Glasgow, and Hull, dated 12th November 1886.
   Inquiries whether the Association would co-operate in reducing the allowance for impurities in wheat shipments to 2 per cent. - - - - - - - - 78
2. Liverpool Corn Trade Association, to Bombay Chamber of Commerce, dated 3rd December 1886.
   States that the Association has advocated the reform for some time, and will do its best to give effect to the Bombay Chamber's proposal - - - - - - - - 78
3. London Corn Trade Association, to Bombay Chamber of Commerce, dated 11th February 1887.
   States that the Association, while alive to the importance of insuring purity of Indian wheats, considers that the reform must depend mainly on the efforts of the Chamber to check admixture of foreign substances - - - - - - - - - 79
4. Extract from the Report of the Bombay Chamber of Commerce for the year 1888.
   Summary of the action taken by the Chamber - - - - - - - - 79
5. Circular of Bombay Chamber of Commerce to its Members, dated 15th March 1888.
   Forwards, for opinion, Resolution of Liverpool Corn Trade Association proposing new standard for Wheat Contracts - - - - - - - - - - 80
6. Letter from Liverpool Corn Trade Association, No. 123, dated 15th February 1888. (Enclosure to No. 5.)
   Announces the new standard proposed by the Standards Committee of the Association - - 80
7. Bombay Chamber of Commerce, to London Corn Trade Association, dated 20th April 1888.
   Forwards Resolutions adopted as basis for future Wheat Contracts, and requests co-operation in limiting refraction for Bombay shipments to 2 per cent. - - - - - - 80
8. Bombay Chamber of Commerce, to Liverpool Corn Trade Association, dated 20th April 1888.
   Forwards for acceptance, Resolutions adopted by Chamber as basis of future Wheat Contracts - 81
9. London Corn Trade Association, to Bombay Chamber of Commerce, dated 11th May 1888.
   States that the Association does not see its way to carry out the Resolutions adopted by the Bombay Chamber - - - - - - - - - - 81
10. Liverpool Corn Trade Association, to Bombay Chamber of Commerce, dated 12th July 1888.
    Notifies the Liverpool standards for Bombay wheat finally adopted - - - - - 81

Appendix B.

Abstract of a series of notes relative to the Impurity of Indian Wheat interchanged in 1886 between two gentlemen interested in the trade. - - - - - - - - 82

Appendix C.

1. From Lord Cross, to the Government of India, No. 128, dated 26th December 1889.
   Forwards Nos. (2) to (4) - - - - - - - - 83
2. John McDougall, Esq., to the Secretary of State for India, dated 27th November 1889.
   Reports the agreement come to by the London Corn Trade Association in reference to the terms of contract regarding impurities in Indian wheat. Suggests the introduction of American grain elevators into India - - - - - - - - - - 83
3. London Corn Trade Association, to the Secretary of State for India, dated 14th November 1889.
   Forwards letter addressed to the Bombay Chamber of Commerce and Calcutta Wheat and Seed Trade Association with regard to standards of impurities or "refaction" in Indian wheats - 84
4. London Corn Trade Association, to the Bombay Chamber of Commerce, Calcutta Wheat and Seed Trade Association, &c., dated 14th November 1889.
   Notifies the standards agreed to after consultation with the Liverpool Corn Trade Association - 85
5. Government of India, to Local Governments, and Government of India, Public Works Department, Nos. 220–225 C.—19–3, dated 31st January 1890.
   Circulate for information papers (1) to (4) - - - - - - - - 86

Appendix D.

1. Extract from the Report of the Bombay Chamber of Commerce for the year 1889.
   Summary of action taken by the Chamber during the year towards the reduction of impurities in Indian Wheats - - - - - - - - - - - 86
2. Bombay Chamber of Commerce, to the Government of Bombay, dated 14th June 1889.
   Protest against the statements put forward by the London Corn Trade Association at the India Office Conference of 8th May 1889 - - - - - - - - - 87
3. Bombay Chamber of Commerce, to the London Corn Trade Association, dated 6th December 1889.
   Points out that the impurity or refraction standards agreed upon by the London Association will not contribute materially towards improving the quality of Indian wheat, and requests reconsideration of the decision - - - - - - - - - 89
4. Extract from the Report of the Bombay Chamber of Commerce for the year 1890.
   Summary of action taken during the year to improve the Indian Wheat Trade standards - 89
5. London Corn Trade Association, to Bombay Chamber of Commerce, dated 7th February 1890.
   Regret their inability to go further in the matter of refraction standards - - - 90

PAPERS

REGARDING THE

IMPURITY OF INDIAN WHEAT, AND THE ESTABLISHMENT OF WAREHOUSES FOR CLEANING AND GRADING WHEAT, OR FOR STORAGE.

1.

GOVERNMENT OF INDIA to LOCAL GOVERNMENTS, No. 67A.—42–4, dated 16th May 1885.

Circular inquiry.

I am directed to forward a copy of a Resolution (No. 95, dated 19th March 1885), recorded by the Government of the Punjab, on the subject of the wheat trade of that Province. The Resolution is of great interest and importance, and I am to suggest that the Local Government should give to it such publicity as may be considered necessary.

2. With reference to paragraph 11 of the Resolution, which deals with the question of the construction of Warehouses near railway stations for the storage of wheat, I am to enclose a copy of the accompanying papers.* The Government of India will be glad if the Local Government will take such steps as may be expedient to procure for this important question more full discussion and consideration in communication with the commercial public than it has yet received. As at present advised, the Government of India is disposed to believe that official action might usefully be taken in co-operation with the commercial community with the object of providing increased facilities for the wheat trade.

No. 67A.—42–4.

Copy forwarded to the Public Works Department for information, with the intimation that the Revenue and Agricultural Department will be glad to be favoured with an expression of the views of the Public Works Department on the questions of demurrage and warehouses, raised in paragraphs 10 and 11 of the Resolution, No. 95, dated 19th March, and referred to in the subsequent communication from the Punjab Government.

2.

RESOLUTION by the GOVERNMENT OF THE PUNJAB, No. 95, dated 19th March 1885.

Review of Punjab wheat trade.

In the Review of the Report on the Internal Trade of the Province for the year 1883–84, the growing dimensions of the export of wheat were briefly noticed, and allusion was made to the fact that the subject of the improvement of the trade and of the encouragement which could properly be given by Government towards its development had been for some time under consideration. Since then the papers and statistics relating to wheat cultivation in the Punjab, which have been compiled by the Commissioner of Settlements and Agriculture, have been before the Lieutenant-Governor; and as the matter is one of the greatest importance to the Province, in which one-third of the cultivated area may be said to be regularly cropped with wheat, the Lieutenant-Governor deems it desirable to gather into a single Resolution the whole of the information which has been recently collected regarding the present conditions of the wheat trade of the Punjab, and the suggestions which have been made for its improvement and development.

Dr. Forbes Watson's suggestions, 1879.

2. It will be convenient, however, previous to considering the papers which are now before his Honour, to sketch briefly the action which has been taken by the Punjab Government from the date at which the question of the wheat trade first came under discussion up to the present time. The conclusions drawn by Dr. Forbes Watson in his report† on the subject dated 29th March 1879 were most encouraging. He considered that India was admirably suited for the growth of the finest qualities of wheat, both soft and hard, and he expressed an opinion that the Punjab was probably

* Papers Nos. 4 and 5 of the present collection.

† Report on Indian Wheat, presented to Parliament—C. 2348 of 1879.

destined to become the chief wheat-exporting province of Hindustan. He suggested that the true policy in the matter was to encourage the cultivation of the finest varieties of wheat, and he commented on the mixed condition of the Punjab samples, and pointed out that the causes of the inferior quality of Indian shipments might be easily removed by the introduction of some simple screening and winnowing machines. In 1881 the Secretary of State for India called for a report on the description of soils in which the better classes of wheat indicated by Dr. Forbes Watson were grown, and on the system of cultivation followed. Before the information for this report had been collected, the Resolution in the Public Works Department, No. 6,436, dated 28th November 1882, was issued under the orders of the Lieut.-Governor. In that Resolution the necessity of the extension of railway communication and the reduction of railway freight was specially dwelt upon, and it was shown that India could as yet compete with America in the markets of Europe only when the latter had a deficient crop. The railway rates for the carriage of grain to the three ports of Calcutta, Bombay, and Kurrachee were compared, and it was demonstrated that, although the East Indian Railway, owing to its cheaper coal-supply, could afford to carry at lower rates than the Sindh, Punjab, and Delhi Railway, the cheapest route for all Punjab grain above Ludhiana, or perhaps Umballa, was *viâ* Kurrachee. The advantages of this port were thus described: "Situated at the extreme northern end "of the Indus Delta, it is connected with the entire river system of the Punjab. It "possesses a harbour safe and easy of approach, with fairly regular soundings and "few formidable currents. It has the additional advantage of being northward of the "limit of cyclones. It is less affected by the south-west monsoon than most parts of "Western India. Being nearer by 200 miles to Aden, and bringing as it does a great "part of the frontier 1,000 miles nearer to England than the route *viâ* Bombay, the "importance of the port of Kurrachee as an outlet to this Province can hardly be "exaggerated." This was written in November 1882, when the cost of wheat delivered at the port of Kurrachee was Rs. 3.2.0 per maund. At the present time it is being exported at Rs. 2.7.0, and as the sea freight is now 43 per cent. lower than it was in 1882, wheat can be delivered in England at 10*s.* 7*d.* per quarter less than it could be two years ago—a fact which of itself is sufficient to show how greatly the importance of the Punjab wheat trade has increased during the last few years. Since then the publication of the report by Messrs. McDougall Brothers, of which the substance is contained in the extract annexed to the present Resolution,* has shown beyond dispute that in certain respects Indian wheats are second to none in the world, and the special attention of the principal English wheat firms and Indian Chambers of Commerce, as well as of Local Governments and Administrations, has been naturally directed to the whole subject of the export of Indian wheat. In reply to the inquiries instituted in connexion with the report called for by the Secretary of State, it was originally shown that about 6½ million acres were under wheat in the Punjab, and that, speaking roughly, 5½ maunds per acre for unmanured rain lands, 7½ maunds for manured rain lands, and 10 to 14 maunds for lands manured and irrigated, might be assumed as the yield of an average crop. It was further stated that the soft red was the most common variety of wheat, and that the method of cultivation was essentially the same everywhere in the Province. This information, though useful and reliable as far as it went, was hardly sufficient to publish for general guidance. The Financial Commissioner was accordingly requested to take steps for the collection of further facts with reference to the various points that had been raised in connexion with the subject, and as the question in many of its aspects was one peculiarly affecting the Agricultural Department, the inquiry was entrusted to the Commissioner of Settlements and Agriculture. Colonel Wace has now embodied all the most recent information on the subject in the pamphlet entitled "Punjab Wheat," which is above mentioned. This pamphlet, for which the thanks of the Lieut.-Governor are due to Colonel Wace, gives in a succinct manner the actual conditions of wheat production in the Punjab, and will, it is hoped, prove of real practical value to all who are interested in the question of the Indian wheat trade, from what point of view soever their interest arises.

Railway extension necessary.

Advantages of Kurrachee as a port.

Punjab wheat acreage.

Colonel Wace's pamphlet.

3. Before proceeding to a consideration of the papers published by the Commissioner of Settlements and Agriculture, it may be noted that the conclusions arrived at in the Resolution of the Public Works Department, to which allusion has been made in the preceding paragraph, regarding the importance of Kurrachee as an outlet for the trade of the Punjab, have been fully borne out by the returns for the last two years. In 1879 the export of wheat to Kurrachee was valued at Rs. 74,668. In 1882–83 the

Exports to Kurrachee and Bombay.

* See No. 3 of the present collection.

money value of the wheat consigned by rail to that port, exclusive of river traffic, amounted to Rs. 51,42,886, and in the past year to Rs. 54,71,950. The exports of wheat to Bombay have also been very large, and have increased from a weight of 2,18,897 maunds in 1882–83, to 14,33,576 maunds in 1883–84, while the consignments to Calcutta have decreased from 2,40,082 maunds in 1882–83 to 2,11,384 maunds in 1883–84. From a provincial point of view, therefore, the trade to Bombay and Kurrachee alone demands attention at the present time, and from the experience of the past few years there seems no reason why Kurrachee should not eventually become the natural and geographical outlet of this Province. It must be remembered, however, that in spite of these satisfactory figures Kurrachee up to the present has enjoyed but a very small portion of the trade of India, as will be seen from the figures below, which show the proportionate value of the foreign trade of each of the five chief ports during the year 1883–84:—

	Per cent.
Bombay	41·57
Calcutta	38·48
Rangoon	5·07
Madras	5·28
Kurrachee	3·37

But though the amount of trade appears insignificant as compared with that of Bombay or Calcutta, it may be noticed that within the past year there has been a marked increase in the trade of Kurrachee, which amounts to 13·56 per cent. of that during 1882–83. This is due, no doubt, to the great activity in the export of oil-seeds and wheat; but the principal difficulty with which the export of wheat to Europe has to contend may be seen at a glance from the fact that 65 steamers have entered Kurrachee in ballast during the past year.

4. The other disadvantages from which the wheat trade of the Punjab suffers may be readily gathered from a perusal of the papers collected by Lieutenant-Colonel Wace, and it may be hoped that among other useful purposes these will result in the eliciting of suggestions as to the best means of remedying the faults which up to the present have been inherent in the production and storing of wheat. It appears to His Honour from a consideration of the reports now published, and from a general view of the facts which have been collected on the subject of railway communications and freights and other matters connected with the wheat trade of India, that the disadvantages under which the trade suffers in the Punjab may be conveniently treated as (1) economical and (2) administrative and physical.

Defects in production and storage.

5. The chief economical drawback is the dirty condition in which the grain is usually purchased, and the first thing is to obtain, if possible, a clean wheat for export unmixed with dirt and other inferior grain. A perusal of the reports by District Officers leads the Lieutenant-Governor to agree with the opinion expressed by Colonel Wace that reform in this direction can be looked for only very gradually from the cultivators as a body. It is clearly indicated in many of the reports that the agriculturist has at present little or no interest in turning out a clean sack of wheat, as the middleman pays him no more for the cleaned article than is paid for uncleaned wheat. But this state of things obtains to a marked degree only when the cultivator is deeply in the debt of the middleman, and in those districts where the agriculturist is in prosperous circumstances there is no reason why he should not obtain a better price for a cleaner grain. The farmers in the Punjab are generally in a small way, and Sir Charles Aitchison is inclined to believe that for the purposes of a large export trade the work of cleaning the grain must, according to the natural division of labour, fall upon the trader, and that Government must look rather to the self-interest of this class and to the example set by Western enterprise, as in the case of Amritsar, where Messrs. Ralli Brothers have started machinery for cleaning grain, than to advising cultivators to take pains and trouble to produce a result which brings them little or no perceptible profit. It is admitted on all hands that at present the cost of threshing or winnowing machines is prohibitive to the small holder, but it has been suggested that it would perhaps not be beyond his means to thresh his wheat on a wood, canvas, or matting floor, and that a common fan would be far more efficacious than winnowing the grain by exposing it to the action of the wind by pouring it out of a basket or tray. It must be remembered, however, that the threshing floors in the Punjab are usually of the firmest consistency, and that the winnowing of the grain is accomplished for the most part by means of the strong winds which blow persistently in most districts of the Punjab during the months of April and May. Another reform which has been

Dirtiness of grain the chief economical drawback.

Causes of impurity and their remedy.

mentioned as essential for keeping wheat clean is that it should be stored in sacks, and until this is done the grain must always remain exposed to dust and dirt whenever it is moved from one place to another. Something might doubtless be done by middlemen in these respects, and the cultivator may be expected to gradually fall in with the views of the buyer, wherever it is possible to show him that the extra trouble entailed is fully compensated by the better price paid for the wheat. But it does not appear feasible for a Local Government or for Government officers to take any further steps in this regard beyond pointing out to the people that in the long run their interests are pretty sure to be found identical with those of the buyer. It would appear from the present papers that the Punjab cultivator cannot be justly charged with purposely adulterating wheat by the admixture of dirt.

Improvement in cultivation.

6. But while Sir Charles Aitchison thinks it probable that the grower of wheat is not likely to find it greatly to his advantage to take much greater trouble in the harvesting of the grain than he does at present, he cannot take it for granted that the agriculturist has nothing to learn in the matter of wheat production. It may perhaps be the wiser policy at present to leave the cultivator very much to himself in the matter of the variety of wheat which he grows. The soft red wheat is a hardy plant, requiring less irrigation and less manure than the more valuable soft white; and at present the soft red variety is grown on 5 million acres out of a total of 7 million acres under wheat cultivation, according to the estimate framed by Colonel Wace. But though it is not the province of Government to interfere in any way with agricultural preferences for a particular variety, and though the advantage of State interference in questions of this sort is highly problematic, it cannot be considered beyond the sphere of officials that they should advise cultivators and middlemen of the fact that club or soft white wheats command a higher price in Europe than other varieties, and should give the people an opportunity for trying what can be done with the white wheats. It must be remembered that the export trade to Europe is of very recent date, while the cultivation of wheat in the Punjab is of some antiquity; and in arguing the cultivator cannot be taught much, consideration should be paid to the fact that the conditions of the wheat demand have changed enormously, and that with a change in the demand an alteration in the conditions of production is inevitable. Colonel Wace deprecates the charge brought against the cultivators that they are careless as to the selection of seed, and it is satisfactory to learn that they are not indifferent to the importance of securing seed of a good quality; but Sir Charles Aitchison here too thinks that much might be done by District Officers to encourage recourse to an Indian pedigree wheat. It is also satisfactory to hear that the Punjab cultivator does not sow mixed varieties of wheat in the same field, that he does not ordinarily mix his wheat with other crops; and that when he does he has good reasons for doing so. But here again, if the advantages of growing wheat separately were pointed out to the agriculturist and his money-lender, they might consider that the reasons for growing a mixed crop were outweighed by better reasons for growing wheat alone. It seems, indeed, to Sir Charles Aitchison that in an important question such as this is, Government would be failing in its duty if it neglected any legitimate means of placing before the agriculturist the profits which may result from the production of a superior and unmixed grain, and of promulgating the simpler methods by which this improvement in production may be attained. The methods by which this may be most conveniently done in His Honour's opinion will be indicated below.

Pedigree wheat.

Village traders.

7. So far the actual producer has been considered, but it is necessary also to refer briefly to the position of the village traders through whose agency the wheat is largely collected. Here the Lieutenant-Governor is more inclined to agree with the Commissioner of Agriculture that little success can be expected from Government advice or interference. There can be no doubt that the mixture of wheat with dirt, or with inferior grains, or of one kind of wheat with other kinds, prevails to a large extent owing to the carelessness or cunningness of this class. The account from Ludhiána shows that the wheat is deliberately watered and mixed with dirt, and it is stated that in certain villages of the Ferozepore District the Chamárs make it a trade to supply different coloured earths to suit the colour and size of the different kinds of grain. The earth is worked into small grains, and it is almost impossible to winnow it out. These malpractices and the general carelessness of the trader who sweeps up dust and grains of other descriptions into his wheat will bring their own remedy. The trader will desist from such ways when he finds that the 1,000 tons of wheat which he despatched from Lahore have been cleaned and examined at Kurrachee, and that he

Their malpractices.

only gets payment for 950 tons, and that too classed low for mixing. The report from Ludhiána shows that this process has already begun, and the middlemen must be left to learn their true interests by experience. Every opportunity, however, should be taken of explaining to this class that the cleaning process only requires to be done once, and that it ought to be done in the Punjab. If the grain were sent down to Kurrachee ready for shipment there would not only be the saving in the carriage of refuse, but further the whole of the cartage charges at Kurrachee would be avoided, as the wheat could be run straight out to the shipping.

8. This leads to a consideration of the question how far the trade is hindered by causes which can be modified or removed by the Administration, or by natural causes arising from difficulty of communication and the cost of carriage. Though Government cannot interfere with a trader who sends his wheat down to Kurrachee in a dirty condition, and though it cannot at once obviate economical drawbacks arising from custom and the lack of intelligence and enterprise, still it is possible to do much by the spread of information generally and by affording facilities to trade. In connexion with the expediency of cleaning the wheat once and for all up-country, the necessary accommodation at the railway works at Kiámári, which has greatly encouraged the direct shipment of grain, may be mentioned; but it must obviously rest with the traders of the Punjab to arrange for consigning their wheat to Kurrachee for direct export without having recourse to the expense and delay of an intermediate agency at that place. Another means of fostering the trade is to establish central grain markets, as in Amritsar, where the subject has been warmly taken up by the municipal authorities and local bodies, and it is probable that in other grain centres as well much might be done to exploit the trade by the action of municipalities.

Central grain marts advocated.

9. There can be no doubt that the first great requirement for the development of the wheat trade is the opening out of railways and as feeders to the main systems of the Province. The case for this has been forcibly stated by the late General Medley in his pamphlet "Railways in Upper India." Taking the best section of the Sind, Punjab, and Delhi Railway, some 335 miles in length, between Lahore and Gháziabad, General Medley has shown that this is fed by metalled roads only at the stations of Amritsar, Jullundur, Ludhiána, Rájpura, Umballa, Saháranpur, Muzaffargarh, and Meerut, or at intervals of 39, 49, 35, 53, 13, 55, 36, 35, and 27 miles; while the Punjab Northern and Indus Valley lines, and the Mooltan and Sind sections of the Sind, Punjab, and Delhi Railway may be said to have virtually no metalled feeders; and on the Indus Valley line traffic is practically suspended during the flood season,—*i.e.*, from June to October. The great need of feeder lines has never been lost sight of by the Punjab Government during recent years, and much has been done and will, it is hoped continue to be done, to develope side by side canals for the better cultivation of wheat, and railways for affording greater facilities of carriage for that wheat. The Punjab Northern State Railway to Pesháwar will tap the virgin country about to be irrigated by the Swat River Canal, and the Rewári-Ferozepore State Railway will open out a great grain-growing tract in which large areas will be watered from the Sirhind Canal. The construction of the lines from Wazirabad to Siálkot, from Lála Músa to Miáni, from Ráewind to the right bank of the Sutlej opposite Ferozepore, and of the Amritsar-Pathánkot Railway, have all facilitated the export of wheat from important districts; and should the projected line of the Sind-Sagar Doáb, and the railway from Patiála to join the Ferozepore-Rewári line below Bhatinda, be ultimately constructed, the important wheat-fields of the jungle country and of Bannu, Dera Ismail Khan, and Muzaffargarh will be opened by railway communication. It is undoubtedly true that in certain parts of the Province the usefulness of railways is diminished by the absence of good feeder roads, metalled and unmetalled. Unfortunately the condition of Provincial finances and the numerous urgent demands made upon the resources of the Punjab Government render it impossible for Sir Charles Aitchison to contemplate any systematic plan of operations for remedying existing defects. As far as the very limited means at the disposal of the Province can be made to go, the metalling of important roads will receive its fair share of attention, but more than this it is at present beyond the power of the Lieutenant-Governor to say. During the past year several projects for the construction of metalled roads from the balances of district funds placed at the disposal of local bodies have been approved by His Honour, and it is probable that some further development in the direction desired may be looked for from this source. But it is necessary for local bodies to proceed gradually in the making of metalled roads, which are very costly to maintain; and as far as the remarks above quoted on railways in Upper India

Roads and Railways chiefly required.

Recent railway extensions.

have reference to the country beyond the Ravi, it must be remembered that the carriage there depends chiefly on boats and on camels, and that it may be almost said that carts do not exist in these parts, nor cattle of a size to drag them. Proposals for the construction of tramways as railway feeders have also lately been before the Lieutenant-Governor. Those relating to the lines from Karnál to Delhi and from Gurgaon to Mathra are still in abeyance, but His Honour hopes that as soon as the permission of the Supreme Government is accorded, the intentions of the promoters of the tramway from Amritsar to Tarn Táran will be carried into execution, and he understands that suggestions are about to be submitted to the Local Government for the construction of a line from Chunián to Changa Manga. Meanwhile, under the orders of the Government of India the railway terminus at Gandasinghwála is about to be joined with that at Ferozepore by means of a light tramway passing over the bridge-of-boats, These experiments will be fraught with much interest for the Punjab, and should they prove successful it is possible that the railways of the Province will become gradually supplied with a number of important tramway feeders in the future.

Tramways as railway feeders.

Drawback of Kurrachee; no return trade.

10. There are certain difficulties, however, in the way of the Punjab wheat trade connected with the management of existing railways which appear to the Lieutenant-Governor to require attention. It may be at once admitted that the export trade is at present heavily weighted by the fact that, owing to the absence of a return traffic from Kurrachee, it has to bear the cost of its own haulage and that of the empty returning waggons, and that consequently railway freights to Kurrachee must rule high. Various suggestions have been made for encouraging the import trade to Kurrachee and for fostering a traffic from that port up-country. But His Honour at present sees no way in which the Punjab Government can assist in this direction, and though he is ready to recommend any concessions that may appear fair to him, he cannot help thinking that the import trade of Kurrachee must depend for its development on the growth of wealth in the Punjab. But leaving out of the question the high rates of carriage, it appears to the Lieutenant-Governor that sufficient has scarcely been done in the way of popularising the railways. Some papers which have recently come before His Honour on the subject of the competition of country carts with railways show that even yet the people of the Punjab adhere on certain roads to cart traffic in preference to using the railway. There are many reasons for this which are outside the influence of railway management, but one point is fixed upon as highly unpopular among the native community,—*viz.*, the charge for demurrage; and it has been suggested that this should not be made until consignees have had sufficient time and warning to allow them to remove their goods without undue haste. It further appears from these papers that carts and ekkas, and even a bullock train, regularly ply between Lahore and Amritsar—a fact that would seem to point to the necessity of a reduction in railway freight for short distances and of greater attention to the convenience of traders on the part of the railway. The large firms engaged in the export trade and the Chambers of Commerce must necessarily be in a better position than a Local Government can be to judge of the possibility of greater facilities for the transport of wheat, and doubtless they will not fail to invite the attention of the railway authorities to this point from time to time. As, however, the matters here noticed have recently attracted the attention of the Lieutenant-Governor, His Honour has thought it proper to refer to them briefly in the present place.

Railway reforms. Demurrage rules; freight for short distances.

Want of storage.

11. The absence of storing room at the stations on the Indus Valley Railway and the difficulties in procuring storage at Sukkur have been mentioned in the report from the Muzaffargarh District, and it would seem both politic and profitable to establish wheat warehouses as depôts of the trade. In connexion with this it may be mentioned that proposals for constructing such warehouses on the Amritsar-Pathánkot Railway are under consideration. In the present state of intelligence it is hopeless for the railway authorities to look for due advice being given as to the date when the quantity of goods tendered for despatch may be expected at the railway, but where warehouses are constructed at stations the officials would at once know the requirements of traffic, and would be able to avert the rush and glutting of the lines which is so detrimental to economic working. Moreover, the establishment of such godowns would meet another evil by which trade is occasionally diverted from its natural course; for if traders knew they could find accommodation at railway stations for their goods, they could avoid storing their grain in places where octroi is levied, and could seek the nearest point on the railway.

Publication of early trade information.

12. Finally, it remains to notice the measures for the improvement and development of the wheat trade which the Lieutenant-Governor thinks can be usefully adopted by

the Government. First among these is the publication of information regarding trade. Sir Charles Aitchison has recently taken steps to make the trade returns of his Province fulfil some of the purposes for which such statistics are compiled. In future these returns will be published quarterly, and at a date sufficiently early, it is hoped, to give valuable intelligence to the public. Further, under recent orders of the Government of India, a forecast will in future be prepared showing every year the area under wheat cultivation, the condition of the young plants and the probable yield of grain, and this information will be telegraphed to England in time to apprise the corn trade of the probable state of the market in India before they commence their annual operations. Similarly, the current prices in England and in other countries in which Indian wheats find a market might be circulated to the trading and agricultural communities, and information should be available of the freight rates prevailing at the different seasons of the year. In this direction the Chamber of Commerce, Kurrachee, might usefully co-operate, and efforts should be made to give wide and authorised publicity to this information. His Honour would therefore wish the Financial Commissioner to address the Kurrachee Chamber of Commerce on the subject, and ascertain if they could arrange for the preparation of quarterly statements showing the English price reduced to maunds and rupees at current rates of exchange, shipping charges and approximate freights, and the railway dues from the nearest stations in the district to Kurrachee. Such statements might be published for general information in the principal wheat markets of the Province, and judging from the allegations contained in the district reports of the general ignorance prevailing on the subject, they would doubtless prove of considerable practical value.

Trade returns; forecasts; European prices and freights.

13. There are many other methods which have been suggested for the encouragement and improvement of wheat cultivation. It has been proposed to give prizes for the best-farmed fields, to place samples in each tahsíl of the wheat most in demand, and to publish a broadsheet urging the cultivation of better wheat. The scheme of giving prizes has not been approved of, and the Commissioner of Agriculture appears to think that the agriculturists already know what kind of wheats are most in demand, and that even if samples were sent to tahsíls, the agriculturists would not go to look at them. The Lieutenant-Governor will not at present press the question of the giving of prizes; but the assumption that the kinds of wheat most suitable for export are generally known appears to be opposed to the facts contained in the report of the Deputy Commissioner of Delhi and other papers in Colonel Wace's pamphlet; while a number of officers have approved of the suggestion that samples of wheat should be placed in each tahsíl in the wheat-producing districts of the Province. Sir Charles Aitchison would therefore desire that this may be done, and he would again wish to impress on all officers the fact that the conditions of agriculture, so far as wheat is concerned, are changing very rapidly, and that too much reliance must not be placed on the belief that the Punjab agriculturist has nothing to learn. Experience no doubt is worth a great deal, but agricultural experience when allied to custom is apt to make a community stubborn and unenterprising. In the same way Colonel Wace has disposed of the proposal to publish broadsheets with the remark that all that can be put into a simple pamphlet is known and practised by the cultivator to the best of his ability. But this is to beg the whole question of agricultural improvement, and Sir Charles Aitchison in dealing with a subject of such large issues as the wheat trade cannot accept the proposition that things should remain as they are. Many officers have expressed an opinion that such a paper would prove of great use as a guide to cultivators, and one officer, Mr. Wakefield, has suggested an excellent skeleton form for such a broadsheet. His Honour would wish therefore that a well-considered and practical broadsheet should be prepared in the Agricultural Department on the cultivation, harvesting, and storing of wheat, and that it should be made available for distribution in the various dialects of the Province to all zaildárs, village headmen, and patwárís.

Improvement of cultivation: Grant of prizes for wheat.

Exhibition of wheat samples at Tahsíls.

Distribution of broadsheets to cultivators.

14. That the wheat trade of the Punjab should have expanded in so surprising a manner is all the more remarkable when it is considered how little has been done for it either in Europe or in the Punjab in the way of advertisement by statistics such as have been mentioned above. And if with all these drawbacks the trade has flourished, it is reasonable to anticipate a prosperous future for the Punjab wheat if the physical disadvantages under which it suffers can only be lessened. The Sukkur railway bridge, which has been described as "the link now wanting between the granaries of the Punjab and the seaboard," will doubtless give a very great impetus to export trade, and will effect a saving both in time and money; but there still remains

Conditions of competition with America.

the fact that the distance from the wheat lands of the Punjab to the seaboard is very great, and that in comparison with railway rates in the west of America, Punjab exporters had to pay in 1883 20*s.* 10*d.* per ton per 1,000 miles more than their American competitors. It must therefore be constantly borne in mind that strenuous efforts will have to be made to economise in the cost of production and in the cost of carriage to Kurrachee if Punjab wheat is to overcome adverse freights and a long sea voyage before competing with American produce. As has been already stated, Punjab wheat is now being exported to England at a rate which is 10*s.* 7*d.* less per quarter than it was two years ago. Of this reduction, it is perhaps fair to attribute a considerable share, amounting to 8*s.* 1*d.* per quarter, to improvements effected by the Government and railway administrations, among which may be mentioned the abolition of the Sutlej ferry dues, the saving in cartage resulting from the construction of a branch line from Gandasingh to Raewind, the abolition of the Sukkar ferry toll on grain for export, the reduction in freight charges over 1,000 miles from $\frac{1}{6}$ to $\frac{1}{7}$ pie per maund per mile, and the saving on cartage, freight, and intermediate agency on through-booked grain which has been cleared up-country *viâ* Kiámári. By these improvements alone it has been calculated that a saving of something like 5*s.* 7*d.* per quarter, or 9 annas 1 pie per maund, has been achieved in the cost of transport of wheat from the Punjab to the seaboard. Efforts too have been made by the railway to stimulate the import trade by reducing the rates for the carriage up-country of coal, metals, and piece-goods. At present there is reason to hope that the Punjab wheat trade will maintain in a measure the importance it has so suddenly assumed. But the export trade is weighed down by the heavy cost of carriage to Europe, and for this reason it behoves the Government and all concerned to free the trade of India from all impediments, and to offer every possible facility to growers and exporters.

Strenuous measures necessary on all sides to maintain present position.

The Press, Chambers of Commerce, and the Railway authorities have it in their power to assist the development of the wheat trade in the Punjab; but Sir Charles Aitchison expects too that District Officers will do all they can to make known to cultivators the advantage of reaping pure and unmixed grain, and of separating at seed time the soft and hard and the red and the white grains, and of sowing them in separate fields, and to advise small traders of the loss and delay which must attend the despatch of dirty, uncleaned wheat. For many years the Indian wheat trade must necessarily remain an intermediate trade dependent for its expansion or contraction on causes which vary considerably. To secure the prosperity which has attended the export trade of wheat from India during the last few years a number of circumstances were necessary. Abundant crops in India and crops below the average in the United States and Europe, with low rates of freight and low rates of exchange, combined to foster the Indian trade, but if any one of these factors is wanting hereafter, the profits extending the export of wheat may be reduced to a margin scarcely remunerative. It is for this reason that His Honour would again urge the necessity for reducing in every possible way the cost of wheat production in the Punjab, and that he cannot accept the conclusion of the Commissioner of Agriculture that the Punjab cultivator has little to learn in the matter of wheat cultivation, and little to gain from listening to official advice. On the contrary, it appears to Sir Charles Aitchison that on a subject such as the present the Government have much to teach the cultivator; and if the instruction given is seconded by the self-interest of the growers of wheat, there is every reason to hope that the action of Government will result in better modes of cultivation, more careful selection of seed, and in cleaner methods of threshing and winnowing the grain, as well as in the removal of the administrative and physical difficulties now in the way of the trade.

3.

Annexure to foregoing, Extract from notes by Messrs. McDougall Brothers, dated London, 15th December 1882.

McDougall Brothers' Report.

In addition to the particulars contained in the foregoing returns, we have to report that to anyone experienced in the requirements of the wheat and flour markets of the United Kingdom, and indeed of most other countries, it will be evident there is no probability of these Indian wheats coming into demand for manufacture into flour *without a liberal admixture* of other wheats. They all possess in a marked degree, the same characteristics of great dryness, and a distinct beany and almost aromatic flavour inseparable from wheats grown in the climates and soils of the tropics. Also the flours are ricey, the texture of the breads is too close, and the crust is hard and brittle. But these

characteristics do not detract from their usefulness in any important degree. As is well known, a miller cannot show skill in his craft to greater advantage or profit than that with which he selects his wheats and mixes his grists so as to produce to best advantage a flour from which bread can be made of the colour, bloom, strength, and flavour desired, and with all a good yield.

Peculiarities of Indian wheats.

We pronounce them to be exceedingly useful wheats, in fact hardly equalled for what is deficient and wanting in the English markets by any other wheats. Their chief characteristics are just those in which the wheats grown in our variable climate are most deficient. Their great dryness and soundness renders them invaluable for admixture with English wheats that are in any degree out of condition through moisture, and the great proportion of the wheats harvested here have been in that condition for some years past—a condition that must prevail in all other than wheats harvested and stored during fine and favourable weather, and this the English farmer knows, greatly to his cost, is a state of climate that is by a long way the exception rather than the rule. Added to their dryness, the thinness of the skin of these wheats and consequent greatness of the yield of flour must always place them in the front rank as a "miller's" wheat whenever they are handled with reasonable intelligence and skill.

Such unprecedented yields of flour as are shown by these wheats, ranging (by ordinary grinding) from 77·46 to 80·52 per cent., against English 65·2 and American spring 72·2, speaks volumes in their favour; and their value is still further increased by another point of merit of almost equal importance,—*viz.*, a larger percentage of bread may be obtained than from any other of the flours included in this review.

Their comparative value.

That for the best of these Indian wheats (the fine soft white), on the day they were valued on Mark Lane market, a price was offered as high as that for American winters, New Zealand or English, proves that the great value of the Indian wheat is becoming recognised here—a knowledge that will ere long extend to all our markets. The other lots of Indian wheats (Numbers 2, 3, and 4) were lower in value to the extent of 4*s.* to 5*s.* per quarter, as might almost have been expected from the difference in colour and other characteristics; still, as these latter wheats become better known here, this difference in price will be somewhat lessened. Their beany flavour is not a serious obstacle, as fair average deliveries, when well cleaned and properly dealt with, can be employed in the proportion of 25 per cent. to 50 per cent. along with home-grown or other wheats, such as American, possessing a fine sweet, milky, or nutty flavour.

Glancing at all the facts here elaborated, it is evident that these wheats afford a larger margin of profit, both to the miller and baker, than any other.

We venture to record a conviction we have long held, strongly emphasised by the results of these experimental workings, of the measureless importance of the great resources of the Indian Empire being developed to the utmost in producing wheat for this country. Farmers here are finding that to live they must produce beef and mutton rather than grain; hence the greater need of resources of supply under our own control.

4.

Messrs. Reinhold Brothers, Cawnpore, to Government, North-Western Provinces and Oudh, dated August 1883.

Reduction of intermediate charges.

To enable India to compete successfully with America and other countries in the grain and seed trade, all intermediate charges should, as much as possible, be curtailed, and the advisability of bringing wheat from up-country by rail direct to the ship's side has been discussed by the Government as well as by the Railway authorities; but objections have been raised by merchants that it is necessary to re-weigh and examine the goods on arrival at Calcutta before the goods are despatched to the ship and final payment is made to the native merchants.

Impurity and short weight.

To us it appears the main cause of the delay and extra charges incurred thereby are simply due to the irregularities pursued by a great many of the native grain merchants in dealing with Calcutta firms. Their goods frequently contain a large admixture of foreign matter, to the great detriment of the value of the wheat itself in the European market; besides, there is usually a great difference in the weight of each bag, and as under the general rule of contracts in Calcutta only 10 per cent. of the bags are weighed, the supervision becomes all the more onerous to the merchant-shipper if the time for delivery is curtailed and thereby quick despatch into boats is enforced.

To obviate this state of things, we beg leave to make the following suggestions for His Honour the Lieutenant-Governor's consideration, and shall feel obliged if His Honour will forward the same to the Government of India for consideration and orders.

Cleaning warehouse at Cawnpore.

One of the chief and central stations for the wheat and grain trade on this side of India is Cawnpore. The East Indian Railway at this station has ample room at its disposal, and we think if it could be made available for the building of receiving warehouses and cleaning sheds for wheat and seeds, against a small charge and moderate rental for a limited period, much of the grain trade could be concentrated here. Cawnpore has the advantage of a dry climate, and is therefore best adapted for such a depôt.

There are not many varieties of wheat either from the surrounding districts at Cawnpore which will facilitate the work for a superintending committee, to which we shall allude as one of the main points of the scheme proposed.

Warehouse rules.

All wheat tendered to be received into this warehouse should be *classified*, and a receipt and certificate be granted as to *quality* and *refraction*; no wheat to be received into store containing more than 4 per cent. *admixture of* foreign matter, or 5 per cent. *including* other grains and cereals.

Sheds for cleaning to be added to the storehouses, where natives themselves can superintend the cleaning.

The certified receipt of the committee will enable the bearer, or *bonâ fide* holder, to sell and transfer the same by endorsement, or deposit it with his bankers. The Committee to adjudge the quality should be composed of one or two competent merchants or brokers of recognised standing:—

An official of the Railway Company;

An officer of Government from the Agricultural Department.

The *Receipt for Weight* will be given by the Railway authorities, to whom all the weighing will be entrusted.

The goods will be piled and bagged on examination, and receipt granted at the owner's expense; and the bags thus weighed will be despatched, any natural loss in weight during storage to be at seller's or buyer's risk, to avoid all claims for difference in weight hereafter against the depôt authorities.

Advantages claimed.

It is essential that the charges should be kept as low as possible, as an inducement to natives to bring their goods to the depôt.

The advantages we claim for this scheme are—

1. That the owner of the goods, as soon as he has got his certificate, can either sell or deposit the same with his banker against any advances he may wish to have.
2. That no extra freight is being paid upon useless admixture with grain.
3. The European buyers can act with confidence as regards quality and weight, and let their goods go from the railway wagons direct on board the ship, saving intermediate charges and expenses.
4. That it will facilitate the traffic arrangements of the Railway Companies, and greatly accelerate the delivery at the terminus and at the shipping port.
5. That with such arrangements the goods may be directed to any dock or auxiliary shipping port, which are now contemplated by Government for enlarging the capabilities of the Calcutta sea-borne trade.
6. That Calcutta merchants will have the opportunity of buying gradually a full cargo and keeping it stored in the depôt until the vessel or steamer is announced at the Sandheads, and can obtain advances upon warrants from bankers and others within a fair margin.
7. That European and Native bankers will thereby be insured against unnecessary risks; whilst the security is undoubted, a fair competition in the banking branches will guarantee the holders against being charged usurious rates of interest.
8. That it portends to elevate the character of the grain trade of this country, and must eventually, with an improved and even quality, lead to an increased demand for Indian wheat at home. It is unnecessary to say that indirectly the consequences of such a system can but act as greatly beneficial to the agricultural classes of this country.

If this scheme finds favour and meets with the approval of Government, similar depôts might advantangeously be called into existence at other centres; but we have purposely named Cawnpore, in the first instance, as combining many of the advantages alluded to in the foregoing remarks.

The successful application of our proposal depends in a great measure upon the willingness of the Government to depute one of their officers of the Agricultural Department to be associated with the committee; this, we think, essential to give to the class or quality, as well as to the weights entered into the warrants, an authoritative stamp and the value of a reliable security for merchants and bankers and to the smaller Native proprietors the assurance that there is scrupulously fair dealing with their produce. Government co-operation needed.

For our part we shall be glad to assist and render such services, in connexion with a scheme of this nature as may be required; and we trust that our standing and experience as up-country merchants will be sufficient to explain the great interest we take in this question, by submitting these papers to Government.

5.

Director, Department of Land Records and Agriculture, North-Western Provinces and Oudh, to Local Government, No. 48 T., dated 25th July 1884 (extract).

30. This brings us to the consideration of a scheme proposed by Messrs. Reinhold Brothers of Cawnpore, that a committee should be established at that place to give certificates as to the class, quantity and refraction of all wheat delivered at certain storehouses set apart for that purpose. Such certificates would, it is represented, do away with any further examination of the wheat at the port of shipping. A table in the appendix shows what the wheat trade of Cawnpore has been for the last five years. The exports by the rail may be accepted for every year as showing the total amount for that year, the road and river export being quite insignificant. But this is not the case with the imports, and we only have a complete record of them for 1879–80, when both road and river and canal traffic were registered. Opinion of Director, Department of Land Records and Agriculture, North-Western Provinces and Oudh.

In 1881–82, when the road traffic, but not the water traffic, was registered, we have an approximately correct return of the total imports.

31. I take the exports first and compare them with the total export of the Provinces for the same year :—

Year.	Bushels.	Per-centage on Total Provincial Exports by Rail (s. 12).
1879–80 - - - - -	899,109	23
1880–81 - - - - -	572,249	15
1881–82 - - - - -	992,152	14
1882–83 - - - - -	617,441	10
1883–84 - - - - -	444,425	4

From this table it would appear that the importance of Cawnpore as an emporium for the export wheat trade is falling off, not only relatively but absolutely. Whereas its share of the total trade of the Province has fallen from nearly one fourth to only one twenty-fifth part in five years, the actual transactions are only a half now to what they were in 1879–80. This may be due to a temporary fluctuation in trade (though in any case it is strange that Cawnpore should have had no share in the extraordinary increase of 1883–84), but the following considerations seem to show that this is not the case. Relative importance of Cawnpore in wheat trade.

32. The appendix showing the imports is unfortunately defective, but one thing comes out with sufficient clearness, and that is that the whole of the imports come from Oudh, with the exception of a small contribution by canal from the Agra division. If we compare the total imports of 1879-80 and 1881–82 with the total exports for those years, we find that the former exceeded the latter by 637,065 bushels, or more than 300,000 bushels a year. This amount is probably kept for its own consumption. It is clear, then, that Cawnpore does not export its own produce or the produce of any district for which it is on the direct road for Calcutta. It is entirely dependent for its wheat trade on imports from Oudh. It is not likely that the cart traffic has increased sufficiently to make up for the falling off in the railway traffic, and if we take (having no choice) the latter only as an indication of the relative

amounts of the imports of wheat from Oudh in each year, we get the following results.

Year.	Bushels.	Percentage to Maximum.
1879–80	601,335	71
1880–81	609,301	72
1881–82	845,213	100
1882–83	304,437	36
1883–84	385,387	45

Cawnpore unsuitable as a cleaning centre.

The average of the first three years being exactly double the average of the last two, Cawnpore and Lucknow are at almost exactly the same distance from Calcutta; the former is outside and at the edge, the latter is in the centre of the wheat-producing districts, and with the opening of the Benares Bridge, and the abolition of octroi duties at Lucknow, it is hardly possible that Cawnpore will retain a commanding position in the wheat trade. I am therefore of the opinion that, if a committee of the kind proposed is to be established at all, Cawnpore would not be a convenient place for it.

Scheme would be advantageous.

33. Whether such an institution should be established anywhere in the Provinces is a matter on which I find great difficulty in forming an opinion. There is no doubt it would have great advantages. It is probable that there are faults in the present system which might be remedied. The practice is to have the grain carried off to godowns at Calcutta to be examined by or on behalf of the consignees for refraction. The cultivator can and often does clean down to 2 per cent. of impurities, but the consignees insist on deducting 4 per cent. on this account from the purest samples they receive, thereby occasionally making a not wholly deserved profit. The up-country dealer, however, soon learns this, and makes the profit himself by mixing the required proportion of dirt in the grain he gets from the cultivator. Whatever form the transaction takes it amounts to an *ad valorem* tax of 2 per cent. on the trade. It is said, moreover, that the business of assessing samples is much in the hands of native jemadars, and that there is a good deal of corruption. If subsequent trade reports gave ground to the supposition that the export of wheat was being checked by the dishonest practices which prevailed at the port of shipment, it would seem unquestionably right that these Provinces should take some such measure as has been recommended for their own protection. The stations where grain is brought to the railway are so numerous that no one of them would serve the purpose required, and the best places for a committee of the kind would seem to be where the grain left the Provinces —that is, Benares, Delhi and Agra. Of course, consignors would have the option of sending their goods to the certifying sheds or not. If it were found that consignees were satisfied with the certificates, an examination at Benares would save the examination at Calcutta, and might give an actual saving in time on the present system. It might also be found that the arrangements for testing at Bombay were better than those at Calcutta, and in that case it would be unnecessary to open sheds at Agra and Delhi. Finally, this is precisely the kind of thing which ought to be done by private agency, and Government should not interfere unless the Chamber of Commerce find that they are unable to insist on proper arrangements being made.

But should be left to private agency.

MADRAS.

6.

Resolution by Government, Madras, No. 922, dated 11th August 1885.

Warehouses in Madras Presidency.

In regard to warehouses, it is observed that the question of their construction by Local Fund Boards was very fully discussed in the years 1882 and 1883, and that the majority of Boards expressed themselves averse, under their then circumstances, to the expenditure of funds on such undertakings. An allotment of Rs. 410 was, however, sanctioned by the Board of Revenue in their Proceedings, dated 6th June 1883, No. 1,621, for the construction of a tiled warehouse near the Arcot railway station, and an expenditure of Rs. 380 appears to have been incurred on it up to 31st March 1885. Whether the building has since been completed, the Government are not aware. Other Boards have since expressed themselves more or less in favour of the construction of warehouses at various points along the line of rail when funds become available. It is observed that the cost of the Arcot warehouse was sanctioned from the Road Fund

balance, on the ground that the construction of such buildings is as much debitable to Road Funds as the cost of a railway station is to railway capital.

7.

RESOLUTION BY GOVERNMENT, MADRAS, No. 3267, dated 4th June 1886.

READ the following :—

From the District Board, North Arcot, to Director of Revenue Settlement and Agriculture, Madras.—No. 57, dated Chittoor, 18th January 1886.

I have the honour to reply to your letter No. 2,436, dated 4th December 1885.

2. A warehouse, at a cost of Rs. 410, was constructed near the Arcot railway station, in consultation with the grain-dealers of Ranipet and Walajapet, in deference to the wishes of Government expressed in their order, dated 25th July 1882, No. 773. The Agent and Manager of the Madras Railway was good enough to grant the site free, and a compound wall was erected round the warehouse at a further cost of Rs. 310. On the completion of the building it was leased out, for the first time, for the current year, for Rs. 12–12, to one Arumuga Reddy, the highest bidder. The lessee is allowed to collect fees at a rate of one anna for every bandy-load and three pies for each head-load.

Warehouse, Arcot railway station.

3. As to the working of the warehouse at present, it appears from the report of the Walaja Tahsildar that very few merchants make use of it or appreciate its usefulness.

BOMBAY.

8.

GOVERNMENT OF BOMBAY to GOVERNMENT OF INDIA, No. 6606, dated 17th September 1886.

With reference to Mr. Officiating Under-Secretary Bayley's Circular letter, No. 67—42-4 A., dated 16th May 1885, forwarding copy of a Resolution of the Government of the Punjab and its accompaniments,* on the subject of the wheat trade of that Province, and commending to the favourable consideration of this Government the question discussed therein about the construction of warehouses near railway stations for the storage of wheat, I am directed to forward herewith, for the information of the Government of India, copies of the papers noted in the margin, and to inquire if any progress has been made in providing such warehouses elsewhere, and whether the Government of India contemplates the construction of these warehouses by the Local Government, the Railway Companies, or the trade.

9.

COMMISSIONER, Central Division, to GOVERNMENT OF BOMBAY, No. 634R dated 11th February 1886.

2. It will be seen from the accompanying précis that there is at present but little hope of the establishment of such warehouses. Where the trade is great, the traders, very naturally having their own wakhars, are opposed to the new scheme. Elsewhere the trade is not sufficient to render them in any way necessary. At places such as Khandesh, the people appear satisfied with present arrangements. In other cases where, if warehouses existed, they would probably do some good, there are no funds which could be spent on their erection.

Who should construct warehouses.

3. My own opinion is that the whole scheme is exceedingly premature, that if warehouses are required and are to be built, they will, as soon as the actual necessity arises, be built by private persons who will aim at a fair rent return. Such schemes, in my opinion, do not properly rest within the province of Local Funds, and some munici-

Warehouses not in demand.

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* Letter from the Commissioner, Central Division, No. 634R., dated 11th February 1886, and accompaniment.

Resolution of Government in the Public Works Department, Railway, No. 781, dated 29th March 1886, and accompaniments.

Resolution of Government in the Public Works Department, Railway, No. 1676, dated 27th July 1886, and accompaniment.

Scheme premature.

palities who might undertake them have already numberless costly requirements of a far more urgent and pressing nature to think of and meet.

10.

PRÉCIS of REPORTS OF COLLECTORS, Central Division.

Collector's reports, Sholapur.

In forwarding copy of a letter from the Chairman of the Sholapur Municipality, Mr. Loch reports that, owing to the steady opposition of the merchants, the municipality have not been able to do anything in the matter. He adds that some Barsi merchants who had lately gone to see him were entirely opposed to the project of building a grain market and warehouses at that town, on the ground that they all had wakhars of their own and they did not want to change their way of doing business. He therefore considers it unlikely that warehouses built either at Sholapur or Barsi would pay at present.

Khandesh.

Mr. Propert sees no chance of introducing the railway warehouse system at the stations in the Khandesh District. He is not able to gather from the printed correspondence whether the Railway Company or the mercantile community are supposed to erect the buildings; the latter, however, he states, will certainly not do so, and if the former should pay the cost, they would charge rent which the Khandesh dalals who represent the Bombay wheat merchants would not pay. The wheat arrives at the stations in carts, and is, as a rule, loaded up in wagons without much delay and without expense. Mr. Propert, therefore, remarks that the time has hardly arrived for providing expensive buildings in which to store the grain previous to despatch by rail.

Poona.

Mr. East intimates that as there is no wheat trade in Poona, the Managing Committee of the Poona Municipality are of opinion that there is no necessity for warehouses near the Poona railway station.

Ahmednagar.

Mr. Waddington states that the wheat trade of the Ahmednagar District is not very extensive. The municipality of Nagor have constructed extensive godowns in the vicinity of the railway station for the storage of cotton, and these godowns are also availed of to a considerable extent for the storage of bajri and other grain, and would afford ample room for the storage of wheat as well, should the trade in that cereal increase. Beyond this Mr. Waddington does not consider that anything can be done in the Ahmednagar District.

Satara.

In enclosing a return showing the outturn of wheat for each taluka during the year 1883-84, Mr. King reports that the wheat crop is by no means contemptible as regards the Satara District, but as the principal towns of the district lie at some distance from the railway, and it is at present uncertain how far the railway will succeed in competing with the traffic which now finds its way down to the small ports in the Ratnagiri and Kolaba districts, he is not able to state where the experiment of establishing grain warehouses could be tried with the best chance of success, and therefore only suggests that as the carrying trade of the district is likely to pass through a crisis which may amount to a revolution at no very distant date, no measures based on the assumption that the current of traffic will set in this or that direction can be safely or economically encouraged, and that they should be deferred until they are warranted by practical results.

Nasik.

Mr. Woodward merely states that the Presidents of the several Taluka Local Boards concerned are in favour of establishing grain warehouses, but express their inability to provide funds.

11

RESOLUTION BY GOVERNMENT, Bombay, Public Works Department, Railway No. 781, dated 29th March 1886.

Read again:

Government Resolution No. 4692, dated 9th June 1885, in the Revenue Department.

From the Consulting Engineer for Railways, No. 2033, dated 25th March 1886.

With reference to Government Resolution, No. 1602, dated 2nd January 1886 (passed on Revenue Department Government Resolution No. 4692 of 1885), submits the replies of the Agents, Great Indian Peninsula, Bombay, Baroda, and Central India, and Southern Mahratta Railway Companies, and the Manager, Bhavnagar-Gondal Railway, on the subject of the provision of warehouses for the storage of wheat near railway stations, and observes as follows:—

"In accordance with the order embodied in paragraph 2 of the Revenue Department Government Resolution No. 4692 of 1885, communications have passed between the Consulting Engineer for Railways and the Agents of the Railway Companies, and the Manager, Bhavnagar-Gondal State Railway, with the object of ascertaining where warehouses are chiefly required. The replies of the Companies are given in the tabulated form attached hereto.

"The Great Indian Peninsula Railway Company now name certain stations at which they think warehouses are required. A statement, which accompanies, shows the wheat traffic of those stations and also the oil-seed traffic.

"The Bombay, Baroda, and Central India Railway Company do not consider any further accommodation is required on the wide-gauge line at present. As regards the narrow-gauge line, the Agent is in correspondence with the Punjab Government.

"On the Bhavnagar-Gondal line there is no necessity for warehouses, and on the Southern Mahratta Railway the traffic is not yet sufficiently developed to admit of action being taken with confidence."

Resolution.—The reports from the Railway Administrations and the statement of traffic should be forwarded to the Chamber of Commerce, Bombay, with the following letter:—

Suitable stations for warehouses.

With reference to paragraph 2 of Government Resolution in the Revenue Department, No. 4692, dated 9th June 1885, I am directed to forward copies of communications from the Railway Administrations under the control of this Government, expressing their views on the question of the desirability for the provision of warehouses for the storage of wheat near railway stations, together with a statement showing the total weight of inward and outward wheat and oil-seed traffic handled during the last three years at certain stations in the Central Provinces, and to solicit the favour of being furnished with the opinion of the Chamber as to the places at which warehouses would be most desirable.

STATEMENT OF REPLIES from the RAILWAY ADMINISTRATIONS in the BOMBAY CIRCLE as regards the WAREHOUSE ACCOMMODATION for GRAIN TRAFFIC along the Line provided by LOCAL ADMINISTRATIONS, MUNICIPALITIES, and PRIVATE TRADERS, and their opinions as to the STATIONS at which it is desirable that such Accommodation should be provided.

Replies of Railway authorities.

Great Indian Peninsula Railway.	Bombay, Baroda and Central India Railway.	Southern Mahratta Railway.	Bhavnagar-Gondal Railway.
States that the Local Municipalities have erected storage-sheds at Nandura, Mulkapur, and Harda; that one at Murtizapur has been built by the Local Funds: that there are sheds at Nagpur, but they are little used; that there are also sheds at Chendni, Bandar, Devlali, Kherwadi, and Dhamangaum (belonging to Messrs. Ralli Brothers) and Wardah (erected by Messrs. Naraindass Rajaram), but they scarcely come under the category of those which are the subject of inquiry. Adds that he thinks that warehouses might be erected in the first instance at the following stations on the line: Timarni, Sivni, Sohagpur, Pipariya, Bankhedi, Kareli, Chhindvada, and Narsingpur, and if the experiment is successful, other stations might be mentioned hereafter.	As regards the general question, while conceding that the construction of such store-houses near stations where there is a large grain traffic offered, would be profitable to merchants, is distinctly of opinion that it is not within the province of the Railway Companies themselves to provide such conveniences, and that their action should be limited to rendering assistance in the way of providing sites where such cannot be found near stations and laying down sidings for facilitating, loading up, etc. The only stations on the Bombay, Baroda and Central India Railway at which storehouses would appear to be of any use are Nariad, Umreth, and Wasad. There is one existing at Nariad erected by the Local Fund Committee, and suffices for the purpose, but the grain traffic is not sufficient to pay any one to construct them at the two latter stations, but the Baroda State might be moved to make inquiries as regards the desirability for providing such storehouses there. On the Raiputana-Malwa Railway the only stations at which the construction of warehouses appears desirable are Delhi, Hansi, Hissar, Sirsa, Bhatinda and Kotkapura; at Bhiwani there is a warehouse built by the Municipality which is availed of by merchants.	No warehouses have been erected at any of the stations on the line by Local Administrations, Municipalities or private traders, and the trade in wheat and other food-grains has not sufficiently developed to enable the Agent to say at what places it would be desirable to provide such accommodation.	The traffic of wheat, &c., is at present small, and it is therefore considered unnecessary to provide warehouses near the stations on the line. No such accommodation has been provided at any station by Local Administrations, Municipalities or private traders.

STATEMENT showing the WEIGHT of TOTAL INWARD and OUTWARD WHEAT and OIL SEED TRAFFIC of the under-mentioned STATIONS on the GREAT INDIAN PENINSULA RAILWAY during the last Three Years.

Stations.	Wheat Traffic.	Linseed Traffic.	Til Seed Traffic.	"Other Oil Seed Traffic."	Total Oil Seed Traffic.
	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.
Timarni	7,50,780 (Tons 27,806)	3,351	2,883	—	6,234 (Tons 230)
Sivni	14,63,905 (Tons 54,218)	23,486	27,173	—	50,659 (Tons 1,876)
Sohagpur	2,30,130 (Tons 8,523)	2,873	7,023	27	9,923 (Tons 367)
Pipariya	10,52,351 (Tons 38,975)	21,633	24,199	—	45,832 (Tons 1,697)
Bankhedi	4,07,903 (Tons 15,107)	7,687	18,628	—	26,315 (Tons 974)
Kareli	19,99,052 (Tons 74,038)	2,26,826	1,43,463	17	3,70,306 (Tons 13,715)
Narsingpur	1,72,590 (Tons 6,392)	6,548	10,527	—	17,075 (Tons 632)
Chhindvada	7,28,528 (Tons 26,982)	57,620	66,463	167	1,24,250 (Tons 4,601)

12.

RESOLUTION BY GOVERNMENT, BOMBAY, PUBLIC WORKS DEPARTMENT, RAILWAY, No. 1676, dated 27th July 1886.

READ again Government Resolution No. 781, dated 29th March 1886.

From the Secretary to the Chamber of Commerce, Bombay, dated 28th June 1886 :—

Opinion of Bombay Chamber of Commerce.

"I have to acknowledge the receipt of your letter No. 781, of 29th March last, forwarding copies of communications from the Railway Administrations under the control of Government, expressing their views on the question of the desirability of providing warehouses near railway stations for the storage of wheat; and requesting to be furnished with the opinion of the Chamber as to the places at which warehouses would be most desirable."

"2. Before replying, the Committee took steps to ascertain the views of the proposal entertained by the members of the Chamber who are most largely interested in the wheat and oil-seed trade of the port; and I am now directed to inform you that the opinions expressed are unanimously in favour of such warehouses or depôts being provided at all stations where the extent of the traffic appears to call for the accommodation.

"3. These points can, of course, be best indicated from experience by the railway authorities themselves; but I append a list of the places which, from the trade passing through them, seem to the members of the Chamber desirable locations.

Warehouse rules suggested.

"4. In connexion with the proposed arrangement, however, I am instructed to point out that it would be advisable to impose such regulations for the use of the accommodation as would prevent its being availed of for the mere purpose of local storage, free of charge, as that might be utilised by dealers as a means of hoarding supplies with a view to affecting the Bombay market. Probably it would be sufficient to obviate this if it were made a rule that all stuff lodged in the warehouses should be allowed to remain only until such times as the Railway Companies were able to provide wagons for its removal.

Deficiency of rolling stock on Great Indian Peninsula Railway.

"5. It might not be out of place here to point out that serious complaints continue to be made by merchants, both Native and European, as to the delay and expense imposed on the trade by the deficient supply of rolling stock in possession of the railways. The complaints are more particularly against the Great Indian Peninsula Railway Company, who have been quite unable to keep pace with the requirements of traffic this season during the six weeks preceding the setting in of the rains. The fact of the pressure being confined to such a short space of time will, no doubt, be alleged by the companies as a reason for not providing themselves with a larger number of engines and wagons, but the concentration of traffic into a limited portion of the

season is incidental to the nature of the trade, and quite unavoidable—in fact, is more likely to increase than diminish as time goes on, so that the want will have to be supplied sooner or later, and the earlier the matter is taken in hand the better. These proposed warehouses would, no doubt, assist in mitigating the pressure; but they would not accelerate the transport of produce to the seaport before the rains, which is the objection complained of."

RESOLUTION.—Extract, paragraphs 1 to 4, from the letter of the Chamber of Commerce, together with copy of Bombay Government Resolution, Railway Department, No. 781 of 1886, and of the statement therein referred to, should be forwarded to the Resident at Hyderabad, and the Chief Commissioner, Central Provinces, for information and such action as may be deemed necessary.

2. The Consulting Engineer for Railways should report on paragraph 5 after communication with the Agent, Great Indian Peninsula Railway Company.

3. The question of providing warehouses or storesheds at stations in the Bombay Presidency should be further considered in the Revenue and Public Works Departments. As pointed out by the Agent, Bombay, Baroda and Central India Railway Company, it is not within the province of the Railway Companies to provide these conveniences, but sites may perhaps, in some cases, be found on railway land.

Provision of warehouses not the duty of Railway Companies.

Railway Stations near which the Chamber of Commerce, in their letter dated 28th June 1886, recommend the establishment of Warehouses for the storage of Wheat, &c.

Suggested warehouse stations.

Ahmedabad Collectorate.

1. Viramgam.

Ahmednagar Collectorate.

1. Ahmednagar.

Khandesh Collectorate.

1. Jalgaon.
2. Chalisgaon.

Nasik Collectorate.

1. Lasalgaon.
2. Nasik.
3. Manmad.
4. Niphad.
5. Nandgaon.

Poona Collectorate.

1. Diksal.

Sholapur Collectorate.

1. Jehur.
2. Barsi Road.
3. Madha.
4. Mohol.
5. Kim.
6. Sholapur.

Baroda State.

1. Unja.
2. Mehsana.
3. Bhundu.

Kaira Collectorate.

1. Wassud.
2. Umrath.
3. Godhra.

Central Provinces.

1. Kirkian.
2. Timarni.
3. Pagdhal.
4. Seoni.
5. Dhuramkundi.
6. Dularia.
7. Itarsi.
8. Semri.
9. Piparia.
10. Bunkheri.
11. Gadarwara.
12. Kareli.
13. Narsingpur.
14. Chindwara.
15. Shahapur.
16. Pulgaon.
17. Degon.
18. Panner.
19. Sindi.
20. Bori.
21. Sohagpur.
22. Nagpur.
23. Hurda.
24. Jabalpur.
25. Rajnandgaum.
26. Wardha.

Hyderabad Assigned Districts.

1. Mulkapur.
2. Murtizapur.
3. Manna.
4. Chandur.
5. Dhamargaon.
6. Khangaum.
7. Boregaum.
8. Amraoti.
9. Gulburga.
10. Akola.
11. Badnera.

13.

RESOLUTION BY GOVERNMENT, BOMBAY, PUBLIC WORKS DEPARTMENT, No. 645, C.W., dated 8th November 1886.

READ letter from the Superintending Engineer, Southern Division, No. 1823, dated 11th August 1886:—

"I have the honour to acknowledge the receipt of Government memorandum, No. 868 B., of the 6th August 1886, which forwards, for report and opinion, certain papers bearing on the question of providing warehouses or storesheds at railway stations; the call is in this form, and no special points are specified as those on which report and opinion is required; I trust, therefore, that it will be excused if I touch on any matters that may be considered beyond my province.

"2. First, as to where the obligation lies of providing such accommodation as may be required for giving shelter to goods as well as passengers arriving at stations for carriage by rail,—I should have thought that it was certainly with the Railway Companies, and that this had never been disputed; the remedy for any attempt to use these goods stations as storehouses is as indicated in the 4th paragraph of the letter from the Chamber of Commerce; the provision of warehouses for storage should, it appears to me, be left entirely to private enterprise; no company would think of complaining of excess of custom, and none can fairly object to providing passenger and goods station accommodation reasonably sufficient for their custom.

"3. In the face of the statement as regards the present condition of the traffic made by the Agent, Southern Mahratta Railway, no opinion, from anyone as to the location of warehouses on that line, by whomsoever built, can be looked for; but some special arrangements for sheltering goods, carts, and bullocks and their drivers, will certainly be required at both ends of the cart road link, between the above ghât and below ghât temporary termini, at Baralkod and Collem respectively, of the Hubli-Marmagao Railway; the above ghât terminus will be in a very unhealthy locality; the number of carts is expected to be 800 a day both ways, and this road link will be required for certainly one year (from the 1st January 1887) and probably two or more."

Memorandum from the Superintending Engineer, Northern Division, No. 4,163, dated 22nd September 1886:—

"Reporting on the accompaniments to Government endorsement No. 868 B., of 1886, dated 6th August, the Acting Superintending Engineer, Northern Division, is of opinion that warehouses for the storage of wheat, &c., near railway stations might advantageously be built at Wasad, Umreth, and Godhra, and at Viramgam, Jhund, and Sanand. At Viramgam the trade is large and thoroughly established, and there is little doubt that a large warehouse there, if conveniently placed, will be a convenience to trade and will pay a good return on outlay. The trade at Wasad, Umreth, and Godhra is sufficiently large to require warehouse accommodation and to pay for it.

"2. At Jhund and Sanand it will be well to build at first small warehouses capable of extension, should trade develope and require more accommodation.

"3. The warehouses at Nadiad are much used and are financially a success, the best proof possible that such warehouses are a convenience to trade; but they would have been even more useful if better placed, as they are too far from the railway. When building new warehouses they should, if possible, be placed on a railway siding, so that the labour and loss and risk in loading may be reduced to a minimum."

Memorandum from the Superintending Engineer, Northern Division, No. 4,310, dated 4th October 1886.

With reference to Government Memorandum No. 1,051 B., dated 25th September 1886, forwards a letter from the Executive Engineer, Kaira, who states as follows:—

	Rs.
"The warehouse at Nadiad was constructed from Local Funds at a total cost of Rs. 4,820 during 1884–85.	
The realisation on account of rent for the year ending 31st October 1885 (the first year after construction) was - - - - - - -	439
The realisation on account of rent for the year ending 31st October 1886 -	868
Total -	1,307

"2. There is no scale fixed for levying charges for storing grain, &c., but the different rooms in the building are put up to auction annually by the Revenue Authorities for one year's tenancy on certain conditions."

Memorandum from the Public Works Department (Railway), No. 2345, dated 22nd October 1886.

With reference to Public Works Department memorandum No. 1108 B., dated 8th October 1886, forwards a statement showing the weight of inward and outward wheat, cotton seeds, and seeds traffic at the Nadiad Station of the Bombay, Baroda and Central India Railway during the last three years 1883 to 1885; and states that, as this Railway Company compiles no returns under the head "Oil Seeds," information as regards cotton seeds and seeds has been entered therein.

* * * * * *

2. The provision of warehouses at railway stations is not an object on which expenditure could be incurred from Provincial funds, and the matter appears to be one for the consideration of the Local Boards and Municipalities concerned.

Warehouses should be provided by Local Boards and Municipalities.

3. It is observed that a warehouse has been erected at Nadiad, the cost of which (Rs.4,820) has been met from Local funds, and that the receipts therefrom in the current year are shown as Rs.868.

BENGAL.

14.

DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, to GOVERNMENT, BENGAL, No. 391 T., dated 7th July 1886.

* * * * * *

3. Regarding the question of obtaining clean grain for export, the following remarks were made in my letter of the 2nd September:—

Bengal: Director of Agriculture's Report.

"The impure condition of Indian as compared with the wheat of other countries is attributed to one or more of the three following causes:—

1st.—The mixture of other grains due to the practice of growing two or more crops on the same land at the same time.

2nd.—Imperfect arrangements for winnowing the grain and removal of extraneous matter.

3rd.—Deliberate adulteration by traders, brokers, or others.

"As regards the first of the causes enumerated above, it will be observed that the Bengal Government, in circulating among Commissioners the letter from the Government of India, No. 57 A., dated 10th August 1883, with Mr. Bolton's circular No. 7T—R, dated 4th September 1883, desired these officers to issue instructions to Collectors of wheat-producing districts, in accordance with the wishes of the Government of India, to impress on wheat-growers the importance of preventing the admixture of other grains with wheat, and at the same time called upon them to report the action which Collectors might take in the matter. The Commissioners generally reported, in reply, that little could be done, but added that all that was possible would be done in making known to the cultivators the importance of keeping their wheat free from foreign substances. The Assistant Commissioner of Palamow went further than this, and promised that he would endeavour to persuade cultivators to sow their wheat by itself in the course of his next cold-weather tour; while the Commissioner of Patna submitted for the approval of Government a draft circular which he proposed to issue to zamindars, patwaris, and others, pointing out to them the disadvantage of growing wheat in the same fields as other grains. Attention has, however, been called since that time to the circumstance that the cultivator, in growing oilseeds or other crops with wheat, selects such crops as are likely to succeed in a drought when wheat fails, and thus protects himself against the risks of an unfavourable season. Bengal wheat contains a large admixture of linseed, stones and mud. The standard of refraction in Calcutta being 5 per cent., any refraction there may be over and above this standard is deducted from the value of the parcel. If, for example, the refraction is 8 per cent., a deduction is made of 3 per cent.; but it is to be remembered, on the other hand, that as 5 per cent. is ordinarily deducted, it is doubtful whether cultivators would under existing arrangements derive any benefit from the production of entirely clean grain or grain in which there may be less than 5 per cent. of foreign matter. It is found in the trade that mud can be got rid of,

Prevention of impurities.

"Refraction" system.

but there is no process known by which linseed or barley can be separated from the wheat, and hence it happens that parcels containing an admixture of mud sell better in the London market than parcels containing an equal weight of admixture of other grains. It is to avoid this admixture that merchants agitate against the simultaneous growth of two or more crops with wheat in the same field.

"The advantage of producing clean wheat would, as a matter of course, be represented by the smaller refraction of (say) 2 per cent. over and above the minimum of 5 which might be charged on pure wheat if it could be generally procured; but it is yet to be shown that any appreciable part of this advantage would reach the cultivator as long as a uniform minimum standard of refraction is adopted by the exporters in Calcutta. That, then, the growth of other crops simultaneously with wheat in the fields is, under all circumstances, to be deprecated, does not appear to be a conclusion so obviously certain *à priori*, or so firmly established by the results of experience, as to warrant, for the present at all events, the active interference of Government officers in discountenancing the practice. In the present state of our knowledge on the subject, all that it seems desirable to do is to point out to the cultivator the advantages, such as they are, of producing clean wheat, and of separating the hard and soft and the white and red grains in the selection of seed, and to leave it to him to determine whether the reasons for growing a mixed crop are outweighed by the reasons for growing it alone. The question, however, is one which demands further inquiry, and I request that you will give it your attention and report upon it in due time."

Mixed crops.

Reasons for mixed crops.

4. On the first of the causes enumerated above, to which the impurity of Indian wheat was attributed, namely, the admixture of other grains, due to the practice of growing other crops at the same time; the reports now received show that there is unanimity of opinion to the effect that Government should not interfere with a view to discourage the growth of other crops with wheat. Cultivators are not indifferent to the advantages of producing clean grains, but they prefer to grow mixed crops with a view to secure a better outturn, and at the same time to guard against the risk of failure to which they would be liable by growing an unmixed crop. The advantage from the cultivator's point of view of sowing wheat alone is not clear, for by growing a double crop he gets a chance of securing something if the wheat fails, and moreover, when a deep-rooted crop like wheat is grown with a surface feeder like barley, each stalk of wheat has a larger area for its roots, and the grains are likely to be fuller and heavier than if only wheat were sown. For these reasons it would appear that the active interference of Government officers, with a view to discountenance the practice of growing other crops simultaneously with wheat, is not warranted. All that officials can safely do in this direction is to circulate information showing the prices which may be realised in Calcutta for entirely clean and for impure grain respectively, leaving it to cultivators themselves to determine whether the reasons in favour of growing a mixed crop outweigh those in favour of growing wheat alone. The strength and force of these reasons will, as shown later on, entirely depend on the efficacy of any action which the Chamber of Commerce may find it possible to take towards altering the present system, under which a uniform minimum standard of refraction is adopted by the exporters in Calcutta.

Interference by Govern-

Deliberate adulteration.

5. With regard to the third cause given for the impurity of Indian wheat, namely, deliberate adulteration on the part of middlemen or cultivators by admixture of dirt, an opinion was expressed in my letter of September 2nd, on which comment was invited from the Chamber of Commerce, to the effect that the real reason why Indian wheat is adulterated by admixture of foreign substances lies not in defectiveness of winnowing arrangements, but in the fact that it is not to the cultivator's interest to produce entirely clean grain; for so long as a minimum of 5 per cent. refraction is deducted by exporters in Calcutta, it is evident that it is the interest of the producer to mix dirt with the grain to that extent at least. It was suggested that the remedy therefore lies, not in the introduction of better winnowing arrangements so much as in the alteration of the present system of deductions for refraction. A very remarkable confirmation of this view is afforded by Mr. Allen's interesting report which I quote at length on this point:—

Its causes.

"Similar arguments," he says, "apply to adulteration of mud, &c. These, I believe, the ryot does not add wilfully because the bepari or petty trader to whom he sells would detect them in his small consignment and pay him an inferior price. On the other hand, the petty trader does not insist on cleaned grain, for he will not himself sell grain containing less than 5 per cent. of impurities, which, if deficient, he will add; for so long as the Calcutta merchants accept 5 per cent. as refraction, it would not

pay the bepari to sell grain with only 1 or 2 per cent. of adulteration. This brings me to the real point of the whole question. It is purely a case of supply and demand. If the Calcutta merchants insisted on cleaned grain, they would get it. They do insist on clean samples in the case of linseed, and the result is that linseed is cleaned by the actual cultivators before being sold to the petty dealers. The same result would, I believe, follow in the case of wheat. As matters now stand wheat in Patna is freely adulterated. Ralli Brothers, in Patna City, deal only with the petty dealers, and these refuse to give any guarantee with the wheat sold. Each lot has to be tested both for impurities and for the per-centage of red grain before the price is fixed. If the samples tested happen to be superior to the bulk, the bepari gains. If they should be inferior, the bepari can refuse to deal, and so he cannot lose either way. The cultivators never get a fair price, for the brokers and the aratdars have each to get their commissions on each transaction between the bepari and Ralli Brothers. In some marts where the grain comes chiefly from the neighbourhood it might be possible for Ralli Brothers to deal directly with the actual cultivators; but in Patna, where the grain comes largely from Gorakhpore and Fyzabad, this is impossible, and the agent for Ralli Brothers is compelled to deal with the petty dealers, whose interest it is to cheat him if they possibly can.

"Since writing the above, I have had a remarkable confirmation of these views from the Manager of the Dumraon Raj, the Honorable Joy Prokash Lall. The statements he made were so significant that I took a note of them at the time, and at the same time informed him that I should embody them in this report. The Manager said that about two years ago, when the prospects of the wheat trade were apparently good, he seriously thought of cultivating wheat on a large scale. He estimated that on the Raja's estates there were 300,000 acres of land capable of growing wheat, and he proposed commencing operations with a capital of two lakhs. His idea was to induce the ryots to grow wheat alone by means of advances in coin and seed, and he intended purchasing machinery, such as he had seen at the Calcutta Exhibition, for cleaning the grain. All that he now required was a remunerative market. Last year, when in Calcutta on Council business, he called at the office of Ralli Brothers, and after telling them his plans asked what price they would give for clean grain. *Ralli Brothers informed him that owing to the action of the merchants in England they could not afford to pay more for a clean sample than they now did for grain with 5 per cent. refraction. Upon hearing this the Manager abandoned the idea of growing and cleaning wheat on a large scale.* It is difficult to overrate the significance of this anecdote, which appears to prove conclusively that so long as merchants will not pay a higher price for clean grain, it is useless for Government to think of inducing cultivators to change their present practice.

Evils of refraction system.

"I then asked the Manager about wilful adulteration. He said that he had a gola at Itarsi, near Buxar, from which he used to sell wheat on rather a large scale to the agent of Ralli Brothers at Buxar. The wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly, his servants were directed to mix two maunds of earth with every 100 maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water and specially prepared for the purpose of adulteration. The suggestion for adulterating the grain in this way came, as the Manager says, from the employés of Ralli Brothers. This fully bears out what Major Boileau says, that grain-dealers in Dinapore wilfully adulterate their grain, adding about two maunds and thirty seers of dry clay, bhusee, and other grains to every hundred maunds of wheat. Mr. T. Gibbon, C.I.E., the Manager of the Bettiah Raj, told me that wilful adulteration was practised by the petty dealers in Chumparun, and Mr. Carnduff writing from Hajipore, a large grain mart, says:—'In the hands of 'the middlemen, when the grain is lodged in their golas, such grains as *akla pipra* 'are, I understand, intentionally added with a view to adulteration.' Mr. Jenkins, from Buxar, who has clearly paid a good deal of attention to the subject, is of the same opinion.

* * * * * *

"Messrs. Mylne and Thompson have pointed out to me that adulteration of *gúr* is analogous to the adulteration of wheat. When their sugar-mills were first introduced, they were valued by the purchasers on account of their saving labour, and not because they turned out a cleaner article. Even now the Bunniahs in Jugdispore refuse to pay a higher price for *gúr* free from adulteration, and though the cultivators *can* produce clean *gúr*, and *will* do so if required, it does not pay them to clean the *gúr* they sell in open market. There is now, however, a tendency among European firms to pay a higher price for purer *gúr;* similarly, if the merchants would reduce their standard of

refraction, they would get cleaner samples of wheat. This question is treated exhaustively in the report from Shahabad, and it is so difficult to make extracts without omitting something of interest that I venture to suggest that the whole report be sent in original. The possibility of cleaning grain with the ordinary tray-shaped fan (soop) is pointed out by the Collector of Sarun, and in the report from the Patna district."

6. As regards, then, the alleged imperfection of present arrangements for winnowing, it will thus be seen that the mixture of dust from the threshing-floor forms a very small portion of the impurities found in Indian grain, and that the present arrangements for winnowing are as good as can be hoped for under present conditions. It will of course be desirable to effect improvements in winnowing and threshing should any be found possible; but the root of the evil complained of can only be reached by the abolition of the system of deducting a minimum refraction of 5 per cent.—a remedy which lies in the hands of the merchants themselves. The facts mentioned by the Manager of the Dumraon Raj show conclusively that clean grain will be forthcoming if the merchants pay for it, and that it will not be forthcoming, however perfect the winnowing and threshing arrangements may be, so long as a minimum of 5 per cent. is deducted for impurities, be the samples ever so clean.

Remedy lies with the Trade.

Reply of Calcutta Chamber of Commerce.

7. These facts and arguments have been brought to the notice of the Calcutta Chamber of Commerce, who, while not denying their force, express regret that they are unable in the present state of the trade to alter the existing practice in this respect. As long as that practice continues, it would appear to me to be futile for Government officers to talk to cultivators of the advantages of producing entirely clean grain. On the contrary, if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale.

Messrs. Reinhold's scheme impracticable.

12. With reference to Messrs. Reinhold Brothers' scheme for the provision by Government of facilities for storing wheat near railway stations where the grain might be cleaned and graded on the American system, there is unanimity of opinion adverse to the proposal. I agree in the view that it is impracticable and inexpedient to establish grading warehouses in the manner suggested, and concur with the Director of the Agricultural Department of the North-Western Provinces in thinking that if any such action as is suggested by Messrs. Reinhold Brothers is to be taken, it is precisely the kind of thing which ought to be done by private agency, and in which Government should not interfere unless the Chamber of Commerce find they are unable to insist on proper arrangements. In the present instance the Chamber are opposed to such interference, and no complaints are anywhere made of the insufficiency of the present storage accommodation at railway stations. The East Indian Railway authorities, it may be added, have recently reduced the freight rates from Patna, which now amounts to one-sixth of a pie per maund per mile. It will be seen, however, from the annexed list that while the freights from Patna have been reduced by more than 20 per cent. within the present year, no corresponding reduction has been made in freights from Dumraon and Buxar, from which stations local wheat should be largely exported.

15.

DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, to ASSISTANTS to DIRECTOR, Nos. 414–16, dated 2nd September, 1885.

Causes of impurity of Indian wheat.

The first question to which attention is called is the necessity of obtaining clean grain for export. It will be seen from the papers that the mixture of foreign matter in the wheat now sent to Calcutta for export is said seriously to depreciate its price, thus affecting unfavourably India's ability to compete successfully with America, Australia and other countries, and ultimately injuring the producers. The impure condition of Indian as compared with the wheat of other countries is attributed to one or more of the three following causes :—

1st. The mixture of other grains due to the practice of growing two or more crops on the same land at the same time.

2nd. Imperfect arrangements for winnowing the grain and removal of extraneous matter.

3rd. Deliberate adulteration by traders, brokers, or others.

2. As regards the first of the causes enumerated above, it will be observed that the Bengal Government * * * * * desired these officers to issue instructions to Collectors of wheat-producing districts, in accordance with the wishes of the Government of India, to impress on wheat growers the importance of preventing the admixture of other grains with wheat, and at the same time called upon them to report the action which Collectors might take in the matter. The Commissioners generally reported, in reply, that little could be done in the matter, and added that all that was possible would be done in making known to the cultivators the importance of keeping their wheat free from foreign substances. The Assistant Commissioner of Palamow went further than this, and promised that he would endeavour to persuade cultivators to sow their wheat by itself in the course of his next cold-weather tour, while the Commissioner of Patna submitted for the approval of Government a draft circular which he proposed to issue to zemindars, patwaris, and others, pointing out to them the disadvantage of growing wheat in the same fields as other grains. Attention has, however, been called since that time to the circumstance that the cultivator, in growing oilseeds or other crops with wheat, selects such crops as are likely to succeed in a drought when wheat fails, and thus protects himself against the risks of an unfavourable season. Bengal wheat contains a large admixture of linseed, stones and mud. The standard of refraction in Calcutta being 5 per cent., any refraction there may be over and above this standard is deducted from the value of the parcel. If, for example, the refraction is 8 per cent., a deduction is made of 3 per cent., but it is to be remembered, on the other hand, that as 5 per cent. is ordinarily deducted, it is doubtful whether cultivators would, under existing arrangements, derive any benefit from the production of entirely clean grain, or grain in which there may be less than 5 per cent. of foreign matter. It is found in the trade that mud can be got rid of, but there is no process known by which linseed or barley can be separated from the wheat, and hence it happens that parcels containing an admixture of mud sell better in the London market than parcels containing an equal weight of admixture of other grains. It is to avoid this admixture that merchants agitate against the simultaneous growth of two or more crops with wheat in the same field.

1st cause.—Mixed crops.

2. (*a.*) The advantage of producing clean wheat would, as a matter of course, be represented by the smaller refraction of say 2 per cent. which might be charged on pure wheat, if it could be generally procured, instead of the ordinary refraction of 7 to 10 per cent., but it is yet to be shown that any appreciable part of this advantage would reach the cultivator as long as a uniform minimum standard of refraction is adopted by the exporters in Calcutta. That, then, the growth of other crops simultaneously with wheat in the same field is, under all circumstances, to be deprecated does not appear to be a conclusion so obviously certain *à priori*, or so firmly established by the results of experience as to warrant, for the present at all events, the active interference of Government officers in discountenancing the practice. In the present state of our knowledge on the subject, all that seems desirable to do would appear to be to point out to the cultivator the advantages, such as they are, of producing clean wheat, and of separating the hard and soft and the white and red grains in the selection of seed, and to leave it to him to determine whether the reasons for growing a mixed crop are outweighed by the reasons for growing it alone. The question, however, is one which demands further inquiry, and I request that you will give it your attention and report upon it in due time.

3. With reference to the second cause given for the impurity of India wheat, namely, the defectiveness of existing arrangements for winnowing, I would invite your attention to the remarks made in paragraph 5 of the Proceedings of the Punjab Government. It is there stated that the suggestion has been made that it might not perhaps be beyond the "ryot's means to thresh his wheat on a wood, canvas, or matting floor, and that a common fan would be far more efficacious than winnowing the grain by exposing it to the action of the wind by pouring it out of a basket or tray."

2nd cause.—Defective winnowing.

4. The Punjab Government is, however, of opinion that little in this direction can be expected from the cultivators, and it looks mainly to the traders to provide cleaning or winnowing machines. It appears certain that nothing can be hoped for in this matter from ordinary cultivators, at least until it can be clearly shown them that they would derive any adequate advantage from the production of entirely clean grain. The fact would seem to be that the impurity of Indian wheat is due to deliberate adulteration by brokers and traders as much as to admixture of foreign grains or

3rd cause.—Wilful adulteration.

imperfect winnowing on the part of the cultivators. If, however, anything is to be done in the direction of introducing better arrangements for cleaning the grain by winnowing machines or otherwise, the agency through whom the attempt must be made is that of zemindars, village headmen, or the grain-dealers themselves.

Messrs. Reinhold's scheme.

7. In paragraph 4 of the letter from the Bengal Government and paragraph 11 of the Resolution of the Punjab Government is discussed a proposal made by Messrs. Reinhold of Cawnpore to establish a system of inspecting and grading wheat similar to that adopted in America. The proposal does not receive, it is believed, much favour from the Calcutta Chamber of Commerce, but the question of the establishment of such a system in Patna, from which some 13 lakhs of maunds are sent annually by rail to Calcutta—a quantity which is more than double that consigned from Cawnpore or any other station in India—is one on which Mr Allen is requested to report fully, after communication with persons interested in the wheat trade in Patna. The special officer of the Bhagulpore Division should make similar inquiries regarding the expediency or otherwise of establishing a similar system in Bhagulpore or Monghyr, from which large quantities are sent by boat. In connexion with this subject agricultural officers are requested to inquire into the sufficiency of the existing accommodation for storage of wheat at or near railway stations; to what extent, if any, inconvenience or loss is now caused by the insufficiency of such accommodation; whether it is necessary or desirable to establish warehouses in the way suggested, near railway stations, or in the gunges or marts by the river-side, whence the wheat is shipped, and if so, whether it would be feasible to make arrangements for cleaning the grain stored in such warehouses.

16.

Mr. D. B. Allen, Assistant to Director, Department of Land Records and Agriculture, to Commissioner, Patna Division, dated 2nd December 1885.

I have the honour to submit a report on the wheat cultivation of this division. My information is derived from reports submitted by each Collector, and by the Chairmen of Mozufferpore, Gya, Arrah and Durbhunga, and also from independent sources.

Before giving my own views, which, so far as Patna is concerned, are embodied in the report by the Collector of the Patna district, I will here summarise some of the reports to which I have had access.

Abstract of Collectors' replies, Patna Division.

2. The Collector of Chumparun, Mr. Henry, forwards a resolution passed by the Municipal Commissioners of Motihari, deprecating the construction of a central warehouse for grading wheat, and points out that very little wheat is exported, and that little more than 5 per cent. of the cultivated area is grown with wheat.

The Collector of Mozufferpore, Mr. Norman, with whom the Municipal Commissioners agree, thinks that interference on the part of Government with wheat cultivation or trade would be a mistake, and points out that there is little or no export from the district. He also forwards reports from the Sub-divisional Officers and from a Deputy Collector and kanungo which do not require any special comment.

The Collector of Durbhunga, Mr. Price, as Chairman of the Municipality, is in favour of establishing warehouses near railway stations for storing and cleaning grain, but in another report as Collector, he states that Messrs. Reinhold Brothers' scheme does not commend itself to the trading community at Durbhunga, because it will greatly add to the charges incurred by the native merchants in dealing with European firms, and besides having got their certificate, the storage charges will hurry the market.

The Collector of Sarun, Mr. Forbes, in a report founded apparently solely on personal inquiries, points out that there is no export trade, properly so called, in wheat, the only business of the kind being merely a transhipment trade at Revilgunge and Chupra, where a considerable portion of grain traffic from the North-West Provinces changes hands on its way down the Gogra to Lower Bengal, the remaining portion being retained for consumption in the Sarun District. He disagrees with Mr. MacDonnell's view that there should be an average annual surplus of 20,000 tons of food-grains available for export from this district, holding that the annual supply is not even enough for the local demand. Finally, he is averse to the establishment of central warehouses even at Revilgunge, as there are already private golas there, where the merchants clean their own grain as much as they think desirable.

The Collector of Gya, Mr. Norton, and the Chairman of the Gya Municipality are both averse to warehouses, as there has been no export from this district for over two years, and besides, in the Collector's opinion, *kewal* land on which three-fourths *bis* of the wheat is sown is not suited to growing white wheat.

The Collector of Patna, Mr. Quinn, agrees with me in thinking that central warehouses are a mistake, and though Major Boileau from Dinapore is in their favour as a means for securing a clean sample, he admits that the scheme would cost a great deal of money.

The Collector of Shahabad, Mr. Power, submits a very interesting report embodying lengthy extracts full of valuable information from his Sub-divisional Officers, Messrs. Jenkins and Macpherson, and from Mr. Peppe, Sub-Deputy Opium Agent. The Chairman of the Arrah Municipality, the Honourable Harbans Sahai, also submits a report in which he agrees with the Collector in thinking central warehouses unnecessary.

3. A consideration of the reports referred to above shows that from the northern half of the division there is practically no export trade in wheat, for the business done at Revilgunge has really nothing to do with the Sarun district. Again, from Gya there is now no export of wheat, and if the Collector's view is correct (of which, however, I am very doubtful), there is no likelihood of good white wheat being ever largely grown in the Gya district. Patna, too, though apparently a large exporter of wheat, really grows little more than is required for its own consumption; so the main interest of the wheat question centres in Patna City, the great wheat-distributing centre of the division, and the district of Shahabad, where wheat is grown for export, and where much of the soil is so suited for this crop that the best wheat in the Calcutta market, viz., Buxar club No. 1, is named after a sub-division of this district. Fortunately the reports from Shahabad are full of interest and enable one to discuss satisfactorily the various points raised by the Government of Bengal.

Shadabad the only exporting district in Patna Division.

4. The first question to which attention is called is the necessity of obtaining clean grain for export. The impure condition of Indian as compared with the wheat of other countries is attributed, as the Director of the Agricultural Department points out, to one or more of the three following causes :—

First. The mixture of other grains due to the practice of growing two or more crops on the same land at the same time.

Second. Imperfect arrangements for winnowing the grain and removal of extraneous matter.

Third. Deliberate adulteration by traders, brokers or others.

First, All the reports show the prevalence of the practice of growing other crops along with wheat, and, as I said in my report to the Collector of the Patna district (paragraph 4), the advantage from a cultivator's point of view of sowing wheat alone is not very clear. By sowing a double crop he gets a chance of securing something if the wheat failed. Again, when a deep-rooted crop like wheat is grown with a surface feeder like barley, each stalk of wheat has a large area for its roots, and the grains are likely to be fuller and heavier than if only wheat were sown. This is well known to ryots, who select their grain seed from fields where wheat has been grown with barley. Then as regards the admixture of white and red wheats, it is extremely probable that soil and climate have the effects of converting white wheat into red. Suppose a ryot pays a high price for securing a clean sample of the best white wheat seed. Unless the soil of his field is suited for the growth of white wheat, the outturn will contain a proportion of red grains, and each successive year unless fresh seed be obtained, the proportion of red to white will go on increasing. The price of pure white wheat would have to be enhanced before it paid the ryot to separate the red grains from the bulk. But what are the facts? The best wheat exported from Calcutta, viz., Buxar club No. 1, contains 25 per cent. of red grains. When that is so, why should the cultivator go to the trouble and expense of selling pure white wheat when he gets the best price for white wheat mixed with 25 per cent. of red?

Reasons for mixed crops.

Similar arguments apply to adulteration of mud, &c. These, I believe, the ryot does not add wilfully, because the bepari or petty trader to whom he sells would detect them in his small consignment and pay him an inferior price. On the other hand, the petty trader does not insist on cleaned grain, for he will not himself sell grain containing less than 5 per cent. of impurities, which, if deficient, he will add.; for so long as the Calcutta merchants accept 5 per cent. as refraction, it will not pay the bepari to sell grain with only one or two per cent. of adulteration. This brings me to the real point of the whole question. It is purely a case of supply and demand. If the

Reasons for adulteration

Calcutta merchants insisted on cleaned grain, they would get it. They do insist on clean samples in the case of linseed, and the result is that linseed is cleaned by the actual cultivators before being sold to the petty dealers. The same result would, I believe, follow in the case of wheat. As matters now stand, wheat in Patna is freely adulterated. Ralli Brothers in Patna City deal only with the petty dealers, and these refuse to give any guarantee with the wheat sold. Each lot has to be tested both for impurities and for the percentage of red grain before the price is fixed. If the samples tested happen to be superior to the bulk, the bepari gains. If they should be inferior, the bepari can refuse to deal, and so he cannot lose either way. The cultivators never get a fair price, for the brokers and the aratdars have each to get their commissions on each transaction between the bepari and Ralli Brothers. In some mart where the grain comes chiefly from the neighbourhood it might be possible for Ralli Brothers to deal directly with the actual cultivators, but in Patna, where the grain comes largely from Gorakhpore and Fyzabad, this is impossible, and the agent for Ralli Brothers is compelled to deal with the petty dealers, whose interest it is to cheat him if they possibly can.

No demand for pure grain.

5. Since writing the above, I have had a remarkable confirmation of these views from the Manager of the Dumraon Raj, the Honourable Jai Prokash Lall. The statements he made were so significant that I took a note of them at the time, and at the same time informed him that I should embody them in this report. The Manager said that about two years ago, when the prospects of the wheat trade were apparently good, he seriously thought of cultivating wheat on a large scale. He estimated that on the Raja's estates there were 300,000 acres of land capable of growing wheat, and he proposed commencing operations with a capital of two lakhs. His idea was to induce the ryots to grow wheat alone by means of advances in coin and seed, and he intended purchasing machinery such as he had seen at the Calcutta Exhibition for cleaning the grain. All that he now required was a remunerative market. Last year, when in Calcutta on Council business, he called at the office of Ralli Brothers, and after telling them his plans asked what price they would give for clean grain. Ralli Brothers informed him that owing to the action of the merchants in England, they could not afford to pay more for a clean sample than they now did for grain with 5 per cent. refraction. Upon hearing this the Manager abandoned the idea of growing and cleaning wheat on a large scale. It is difficult to overrate the significance of this anecdote, which appears to prove conclusively that so long as merchants will not pay a higher price for clean grain, it is useless for Government to think of inducing cultivators to change their present practice.

Causes of adulteration.

6. I then asked the Manager about wilful adulteration. He said that he had a gola at Itarsi, near Buxar, from which he used to sell wheat on rather a large scale to the agent of Ralli Brothers at Buxar. The wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly his servants were directed to mix two maunds of earth with every 100 maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water and specially prepared for the purposes of adulteration. The suggestion for adulterating the grain in this way came, as the Manager says, from the employés of Ralli Brothers. This fully bears out what Major Boileau says that grain dealers in Dinapore wilfully adulterate their grain, adding about two maunds and 30 seers of dry clay, bhusee, and other grains to every hundred maunds of wheat. Mr. T. Gibbon, C.I.E., the Manager of the Bettia Raj, told me that wilful adulteration was practised by the petty dealers in Chumparun, and Mr. Carnduff, writing from Hajipore, a large grain mart, says: "In the hands of the "middlemen when the grain is lodged in their golas, such grain as *akta pipra* are, I "understand, intentionally added with a view to adulteration." Mr. Jenkins from Buxar, who has clearly paid a good deal of attention to the subject, is of the same opinion.

7. As regards imperfect arrangements for winnowing, further inquiries have only confirmed the view expressed in paragraph 5 of my report to the Collector, that the present plan is quite good enough under present circumstances. The admixture of dust from the threshing floor even now forms a very small proportion of the adulteration eventually found in the grain, and with greater care it might be reduced still lower.

Merchants should encourage reform.

8. Messrs. Mylne and Thompson have pointed out to me that the adulteration of *gúr* is analogous to the adulteration of wheat. When their sugar-mills were first introduced, they were valued by the purchasers on account of *their saving labour*, and

not because they turned out a *cleaner* article. Even now the Bunniahs in Jugdispore refuse to pay a higher price for *gúr* free from adulteration, and though the cultivators *can* produce clean *gúr*, and *will* do so if required, it does not pay them to clean the *gúr* they sell in open market. There is now, however, a tendency among European firms to pay a higher price for purer *gúr*; similarly if the merchants would reduce their standard of refraction, they would get cleaner samples of wheat. This question is treated exhaustively in the report from Shahabad, and it is so difficult to make extracts without omitting something of interest that I venture to suggest that the whole report be sent in original. The possibility of cleaning grain with the ordinary tray-shaped fan (soop) is pointed out by the Collector of Sarun and in the report from the Patna district.

Uncertainty of wheat trade.

11. One other point that I wish to refer to is the uncertainty of the wheat trade. The exports from Bengal and Behar stations, which exceeded 56 lakhs in 1881–82, fell to 26 lakhs in 1882–83, and then rose to 38 lakhs in 1883–84. Since then the trade in wheat has been remarkably dull. The improvement in 1882–83 tempted the Manager of Dumraon Raj to consider seriously the advantages of growing wheat on a large scale. In the present state of the market nothing would induce him to embark on such a speculation, and nowhere in the division is there any landowner who ceases to grow wheat on a large scale.

Refraction standard the cause of present evils.

12. Are we then to resign ourselves to a policy of inaction? I think not. Competent values have proved that Behar can produce wheat that can compete successfully with grain grown in Russia or America. The comparatively low price at which Indian wheat sells is admittedly due to adulteration. We have proved that this adulteration is not due to the negligence or wilfulness of the actual cultivator. It is not inevitable owing to his system of cultivation. It is, I maintain, mainly due to the 5 per cent. standard of refraction. It is no use preaching to the cultivators. They will provide clean grain if the merchants will pay them for it, and there is grain of good quality in the division whose cultivation can be widely extended, provided the merchants will pay a better price for good quality. As it is the best price is paid for Buxar club No. 1, which contains 25 per cent. of red grains and 5 per cent. of adulteration, and for part of year another 1 per cent. is allowed for weevilled grain.

Mercantile community responsible.

The action of the Calcutta merchants, which depends on the English market, can only be explained on the theory that they have not realised that adulteration is wilful and not due to the native modes of growing and cleaning grain. If Government can bring this fact home to the merchants in a way that will induce them to lower their standard of refraction, and to insist on a higher percentage of white grain, there is every probability that there will be a revival in the wheat trade. The Manager of the Dumraon Raj is not the only man who would gladly grow wheat on a large scale provided he could get a remunerative price, and by diminishing the number of middlemen, the actual cultivator would get a much larger share of the profits. At present the small cultivator is at the mercy of the bepari or petty dealer. He may stand out for a time, but when he must have money to pay his rent he is obliged to come to terms with the bepari. Even the bepari does not (at any rate in the Patna City) gain the bulk of the profits, for before he can deal with the agent of Ralli Brothers, commission must be paid to the brokers, and to the aratdars when the grain is stored. Consider, too, the labour now expended in wilful adulteration, and the freight that is paid for the carriage of dirt. The actual condition of the trade is almost incredible; but the reports that have been received from every district in the division bear out the facts referred to above, and it is noteworthy that those who have given most attention to the subject all agree that it is the merchants, and the merchants alone, who are responsible for this deplorable condition of affairs.

17.

OFFICIATING COLLECTOR, Shahabad, to COMMISSIONER, Patna Division, No. 1826 G., dated 10th October 1885.

I have the honour to submit the following report on the cultivation and trade in wheat in this district.

2. What follows is the substance of a note by Mr. T. F. Peppe, of the Opium Department, a gentleman who has made the wheat trade a subject of special inquiry, together with reports from the Sub-divisional Officers of Buxar and Sasseram.

Wheat cultivation in Shahabad.

3. Regarding the district in general, Mr. Peppe writes thus:—

"There are two principal tracts in which wheat is largely grown in this district; the first is the alluvion soil called the deara, extending from Buxar to the one and reaching a maximum breadth of 10 to 5 miles, with a length of, say, 40 miles, thus including less than 400 square miles. This is the tract in which the beautiful soft white wheat is grown; the land is a rich alluvium annually enriched by the overflow of the Ganges; it is needless to say that no manure is required in this soil for the finest wheats, and that it is in this tract possible to grow as fine wheat as anywhere in India; unfortunately it is in this very tract that the cultivators sow three, or four, and even more crops in the same field, and this is a fertile source of dirty grain, as when reaped separately they are very often pulled out by the roots not cut, and this carries an unusual amount of dirt with the grain on to the threshing floor, but it can be easily separated if the ryot chooses to take the trouble. From what I can gather, about 40 per cent. of the best wheat comes from this tract. The next in importance is the black clay soil extending from the eastern part of the Sasseram sub-division well into the Bhabooah sub-division, and extending from the Grand Trunk Road on the one side, and on the other to within 15 miles of the Ganges, say, 25 miles × 20 miles = 500 square miles.

"In this tract some of the finest wheat is grown, about 50 per cent. of the whole outturn of the district; the cultivators attempt to keep their seed pure white, but there is a tendency to revert to the red variety; the cultivators tell me that there is no market for red wheat, and that they endeavour to produce a pure white soft wheat without admixture of any kind, and sow it entirely by itself, only a little linseed is sown round the margin of the field, and the whole *rubbee* cultivation in some villages in this tract is confined to wheat and linseed, with small patches of barley and other crops for home consumption. The wheat from this tract, although very good, is not equal to the wheat grown on the alluvium lands, and sells for one to two seers less in the rupee. The third principal cultivation of wheat is the koeries and others amounting to about 5 per cent., who sow on dih * lands all over the district, one bigha or so at a time on rich dih land well manured and irrigated. This is probably as fine grain as could be produced in this district, and the only improvement that could be effected would be by sowing a better class of seed, which the koeries and others would be very glad to do; as it is they carefully select their seed and endeavour to get rid of all bad grains before sowing. There is a fourth source of wheat, *viz.*, the small patches of wheat sown in good soil at the foot of the hills or in the valleys or local alluvium along the banks of the smaller streams; this does not amount to more than 5 per cent. of the wheat grown in the district, and is very variable in quality, a large proportion being red wheat in the south of the district. With regard to the question of increasing the cultivation, the whole of the deara lands could be sown year after year with wheat without any loss in quality, for the land is annually renewed by a rich deposit, and therefore the produce of this tract could be enormously increased, and no doubt the time will come when the value of a well-bred wheat crop, free from earthy particles or any other kind of grain, will be as well known to the wealthy cultivator of the deara as to the British farmer. At the present time a ryot who holds 100 bighas sows 20 in peas, 10 in barley, and the rest 70 bighas in grain† and wheat mixed. Their argument is this: suppose that 10 bighas wheat and 10 bighas grain were sown separately, if either the grain or wheat failed, there would only be 10 bighas full and 10 empty; whereas in the other case the whole 20 bighas would be under a crop, and although thinly sown it would spread and fill the whole field, and give a much better crop than a thickly sown one of 10 bighas; they have no crop that could be sown on the empty field, so that there is no probability whatever that this practice will be abandoned; at present 6 punchseeries of wheat to 3 of grain is sown, and the produce is in a favourable season 18 maunds wheat 5 maunds grain.‡ At the time of selling grain to the mahajun or travelling bepari the custom is to clean a measure of wheat, to take the dust and earth out of this quantity and add it to the weight they are weighing with, usually a punchseeri, and in this way the bepari buys the clean grain only. If the bepari had instructions from his mahajun to buy clear grain only, then the whole

Mixed crops.

* Lands adjoining the village-site.
† Chick pea.
‡ Per local bigha = $\frac{5}{8}$ of an acre.

would be cleaned, and there would be very little mud or dirt left in it. All that is required to secure clean wheat is therefore a combination among the exporting firms in Calcutta not to purchase wheat unless it is clean, say, 1 per cent. refraction or whatever is found a practical percentage. The cultivators will then supply clean wheat; no machinery is required by them; they will clean it by a sieve and by soop,* and the mahajun will at the same time clean his wheat before despatching it by rail; many of them do so now, and if the exporting firms in Calcutta would only insist on clean wheat, clean wheat would be the rule. Ordinary wheat brought as it comes from the district contains 6 per cent. on an average of impurities, 3 per cent. being grains and seeds of kinds, and 3 per cent. earthy particles; the whole of this can be taken out of it at a cost of 6 pies per maund, and there will be a gain of 3 seers of grain and seeds, which will bring 3 pies, so that the actual cost is not more than 3 pies per maund for labour, and the cost of 3 seers less grain, which at 18 seers for the rupee would cost 2 annas 8 pie per maund, making the total cost 2 annas 11 pie per maund, or in round figures 3 annas per maund. The grain-dealers in Arrah say that it is already the custom to clean the wheat before despatch to Calcutta, and in the case of linseed, the custom is universal, and no uncleaned linseed is despatched; there are two large godowns in Arrah where the linseed is cleaned by European appliances imported at considerable cost in order to get it thoroughly cleaned, and if this has been done for linseed, it follows that the same could be done for wheat. Even the travelling bepari who buys the linseed from the cultivators has it cleaned before buying it, not as in the case of wheat taking an allowance for the dirt. The grain-dealers in Arrah and the cultivators declare that there is no difficulty whatever in cleaning wheat, and that if clean wheat was purchased and no other, the whole would be cleaned. One advantage in despatching clean wheat, is the percentage given by the railway for wheat put up in double bags ready for export. Nothing will be done unless the merchants themselves supply the motive power by refusing to purchase anything but clean wheat; this done, all the rest will follow. I do not think the export of wheat or any other grain could be facilitated by any measures that Government could undertake; the custom is for the bepari to go round the villages and collect the wheat from the cultivators and carry it off on pack-bullocks, and he has therefore to leave the roads entirely and carry it across country to the railway, and roads of any kind cannot affect the trade to any great extent. At present there is no good metalled road leading to the black clay soils which I have described above as being the largest wheat-producing tract in this district; and if the present road leading from Chowsa to Jehanabad on the Grand Trunk Road was metalled, it might do good. The traffic at present is entirely by pack-bullocks. The scheme proposed by Reinhold Brothers is more applicable to large stations than to the small stations in this district; but of late years the natives are building golas near all the railway stations, and if land was made available on easy terms, they would be still more largely used, and at these golas the cleaning and packing would be carried on as at present preparatory to despatch by rail. Government might through the officers give facilities for taking up lands in the vicinity of stations on the line of railway for the purpose. Beyond this, I do not know of anything that could be done. I had an opportunity, while at Dumraon Exhibition, last cold weather, of going over the exhibits of wheat at the show, and was very pleased to see that some of the samples of wheat were of a very high quality, and compared favourably with the wheat from other districts, and I feel sure that if good wheat for seed purposes could be made easily available, say at sub-divisional head-quarters, some good might be effected. The eagerness with which the ryots present at Dumraon asked for small samples of improved varieties of seed was very marked, and I find the koeries in this district very much alive to the advantages of good seed."

Pure wheat procurable for better prices.

Cleaning of wheat.

Government measures for improvement of wheat trade.

4. The best wheat in India takes its name from Buxar (Buxar club No. 1). Mr. Jenkins reports as follows:—

"Attention is drawn first of all to the necessity of obtaining a clean wheat for export. The principal causes of impurity are stated to be—

(*a.*) The practice of growing two or more crops on the same lands.

(*b.*) Imperfect methods of winnowing grain.

(*c.*) Adulteration by traders.

As regards the *first* point, it is the practice here to sow *sarso* (mustard), *kasum* (safflower), linseed, and grain with white wheat, but at the same time in villages where the latter kind is especially grown, it is also sown as a single crop by big cultivators.

Grains sown with wheat.

* Winnowing fan of bamboo, tray-shaped usually.

Detailed statistics could be procured near *rabi* season as to the area under wheat only. The cultivators are alive to the advantage of growing it singly, but from fear of drought or blight they are afraid to trust to one crop only. Again as long as the standard of refraction in Calcutta is 5 per cent., the cultivators would not gain by sending cleaner grain because the traders would at once adulterate it up to the authorised standard. The admixture of *kankar* is especially objected to, because it damages the mills in England. Linseed is objected to in a lesser degree, while other grains, like gram and barley, are hardly objected to at all, because they can be absorbed in bread-making. To avoid the admixture of *kankar*, Messrs. Ralli Brothers (who buy wheat as far as Moghul Sarai) insist on absolutely clean parcels—a condition which forces beparis and cultivators to take more pains in cleaning their grain. As regards the *second* cause of impurity, as long as the present method of winnowing by a soop, *i.e.*, basket exposed to the wind is the cheapest, it is out of the question to try and induce the cultivators to adopt any other method. It is for the trade to introduce winnowing machines.

Winnowing machine.

Trade opposed to clean wheat.

Thirdly, as regards adulterations, beparis and traders deliberately practice this. If a bepari or trader buys from cultivators wheat with only 3 per cent. of admixture of extraneous matter, he would lose 2 per cent. in exporting to Calcutta, unless he added more dirt to meet the 5 per cent. allowance. Again, as the grain must necessarily be often imperfectly tested in Calcutta, traders add dirt which will be equivalent to 7 or 8 per cent. on the chance of not being found out. It is at present the interest of most traders not to export clean grain, and consequently they are not in favour of cleaning godowns at stations. The only remedy is to lower the standard of refraction or for the merchants in London to buy only clean grain. I believe that it is the policy of Messrs. Ralli Brothers only to export clean parcels.

Warehouses.

Lastly, as to the question of establishing warehouses at stations.

It has already been pointed out that as long as the standard of refraction is 5 per cent. in Calcutta, it is not to the interest of the petty trader to send clean grain at a lower rate of refraction; consequently petty traders, besides objecting to pay any charges, would prefer not to clean the grain that they export. Again, large firms like Messrs. Ralli Brothers, who do export cleaner grain, prefer to make their own arrangements. The matter is really in the hands of the trade, to whom it should be left."

5. Sasseram sub-division has been noticed in the general remarks on the district. Mr. Macpherson gives the following detailed facts:—

Wheat growing in Sasseram.

"The extension of canal irrigation in this district has led to the growth of winter rice at the expense of wheat, especially where the soil is of a light loam or sandy. The western half of the Sasseram sub-division consists, however, of a black heavy loam or clayey soil known as *karail*, which, when wet, is difficult to work for paddy cultivation; but its retentiveness of moisture renders it admirably adapted for the growth of wheat, which accordingly forms the staple crop of that part of the country. The land intended for wheat is for the most part ploughed up about the beginning of the rains and allowed to be in open fallow until they cease, several additional ploughings being given in the interval. It is, however, sometimes grown after a crop of early rice, or, where the soil is light, as in the north of the district, after maize; but in such cases it naturally does not succeed so well. Manure is not used, except sometimes by koeries, who apply old cowdung about the beginning of the rains. The seed is sown by drill, about 1¼ pucca maund to the acre. There are two varieties of seed sown, the white (*dandia*) and red (*lallka*). They are generally grown mixed together. The white seed, owing to the character of the soil in the Sasseram sub-division, is apt to turn red in time, and has to be replaced by fresh white seed every few years. On the heavy *karail* lands the seed is not often mixed with that of other crops, but linseed is often grown round the borders of the fields, and in strips here and there through them. Barley and wheat are often grown together as a mixed crop on the lighter soils, and sometimes grain and peas are also sown with the wheat. The crop hardly requires any irrigation at all on the heavy soil characteristic of the west of the sub-division, as the soil itself is so retentive of moisture. The crop is benefited, however, by showers, just before it comes into flower. Thereafter the west winds of March are very beneficial to it. Reaping is done by the sickle, and the sheaves carried to the threshing floor when they have thoroughly dried; the grain is trodden out by bullocks,

and afterwards winnowed by being shaken in a basket (soop), of the shape of a household dust shovel, exposed to the high west wind which usually prevails at that season. From the above description, it will be observed that there is every chance of the grain, when it comes from the threshing floor, being found to be a mixture of white and red wheat, and also to have a large admixture of the dust of the threshing floor. Both form serious defects in grain intended for the European market. The winnowing basket, however, removes a very large portion of the dust of the threshing floor, and it is almost hopeless to expect that it will ever be replaced in the hands of the cultivator by any of the winnowing machines now available. The cheapest and best of these—the Cawnpore Farm combined winnower and grain separator—is too dear; the additional price obtained for clean grain from this district would not recoup its cost. As for the mingling together of different varieties of wheat, even the grain dealers here would not buy the red wheat by itself. They say that they could get no sale for it in the Calcutta market. It is true that the red variety is more prized for local consumption, being considered more palatable, but in view of the unsuitability of the soil to white wheat, it would be impossible for the cultivator to dispose of all his red wheat so long as it does not command a remunerative price by itself in the Calcutta market. The higher value of white wheat for export—two annas a maund more than for red—is well enough known; but considering the competition of the white wheat sent from up-country, where the soil is better adapted for its growth, the cultivator would not secure a price for his white wheat if grown by itself that would compensate him for the loss he would incur in disposing of the red. The best quotation for wheat in this locality is for a mixture of 25 per cent. red and 75 per cent. white; no doubt a smaller percentage of red would command a higher price, but, as already observed, it is not practicable for the cultivator to send less to the market, so long as there is no demand for it on the part of the local agents of the Calcutta merchant. The grain exported from this sub-division is all sent to Calcutta, and chiefly to Messrs. Ralli Brothers. There is little admixture of grain or other cereals with wheat exported from this sub-division. On the heavy soils, it is generally grown by itself except for some strips of linseed, which are separately gathered without difficulty. From what has been said, it may be gathered that any measures taken to secure a purer grain must receive their initiative from the Calcutta export merchants. Until they offer a remunerative price for red grain from this district, it is hopeless to expect the cultivator to grow red and white grain separately from one another, or to take any trouble to separate them after threshing. If these merchants think that they themselves would secure a price for each class of wheat separately which would cover the cost of having them separated from one another by their own agents or employers, there is no reason why they should not have the process carried out either in Calcutta or at warehouses established at the principal railway stations to which the wheat is brought. They would probably find it cheaper to have the process carried out at the railway stations, as with it could be combined the cleaning of the grain from all admixture of dirt, which would lower the cost of transport to Calcutta, and labour and warehouse room could be obtained cheaper than at Howrah. But so long as they themselves do not see their way to doing this remuneratively, it is, I think, hopeless to expect that the cultivators themselves will. There is no need to take account of the intermediaries through whose hands the grain passes. If the different varieties of wheat are not grown separately by the ryots themselves, and separated by them from all admixture of dirt and other impurities, the separating and cleaning process can best be carried out at the railway warehouses either up-country or in Calcutta. In this matter, I think Government officers can do nothing to improve the quality of Indian wheat exported to European markets. In the matter of communications also Government can do little that is feasible to assist the export of wheat from this sub-division. The whole of the wheat sent from this is exported on cargo boats by canal to Arrah. The merchants say none of it goes by road. There is a metalled road all the way to Dumraon, the nearest railway station to this, but none is sent there. They do not even send the wheat to Buxar, although they can do so by steamer or cargo boat direct. They find that the saving in railway freight makes it most profitable to send all the grain to Arrah. What they are extremely anxious to get is direct steamer communication between Bedadih beside Sasseram and Arrah. They say this would greatly facilitate their trade. The canal steamers have now been given in contract to a private individual, and no doubt if he considers that it would pay him to run a steamer direct between Bedadih and Arrah during the grain export season, the thing will be done.

Cultivators cannot afford winnowers.

Merchants should clean grain at warehouses.

6. Not having been in the district during a cold season yet, I do not feel called on to add any remarks of my own to the information supplied by the officers before mentioned beyond expressing an opinion in concurrence with theirs, *viz.*, that if the merchants want clean wheat, they must lower the standard of refraction.

18.

OFFICIATING COMMISSIONER, Bhagulpore and Sonthal Pergunnahs, to GOVERNMENT, Bengal, No. 1047 C.T., dated 31st January 1886.

Bhagulpore.

I have the honour to submit the following report, after taking the opinion of the District Officers of this division, who in their turn report that they have consulted the Municipal Committees in their respective districts.

Impure condition of Indian wheat due to crude methods.

From the reports received from the District Officers, it appears that the mixture of wheat with dirt and other inferior grains is caused by the crude method of cultivation followed by the agriculturists. They are too poor to afford expensive improvements, as well as conservatives in their principles. But there is no reason to suppose that they would fail to grasp the advantage to be obtained by an improved selection of seed and an improved system of winnowing, provided such improvements were demonstrated to be beneficial and the cost were not beyond their means. The Collector of Monghyr reports that wheat is sown in his district with other crops, such as gram, oil-seed, &c., in the same field, but the mixed varieties of wheat are not sown. The cultivators are not careless as to the selection of seeds, but they prefer to grow mixed crops with a view to secure a better outturn, and at the same time to guard against the risk of failure, to which they would be liable by growing an unmixed crop. In some localities the cultivators do not grow mixed crops. The Collector of Bhagulpore gives the following reasons for the mixed varieties of wheat grown in his district :—

(1.) That the cultivators, with all their experience, find it difficult to decide whether certain land would yield a good outturn of pure white wheat. In such cases they sow jamili or soft red wheat and dudhea or soft white wheat together.

(2.) That when the ryots fall short of their stock of seeds, they do not hesitate to mix red with white to the extent of the shortcoming, and when the proportion of the admixture is not great, they generally entertain a hope of passing the whole produce as white wheat.

The Collector reports that instances have been brought to light in which the middle dealers in grains mix 5 per cent. of red wheat, dirt, &c., with the white wheat without any fear of being detected. Efforts are, however, being made in this district by explaining to the ryots the necessity of taking more care for the production and storage of pure and clean grain for export. The fact that the club or soft wheat commands a higher price in the market is particularly explained.

Warehouses not likely to be beneficial.

Almost all the District Officers are of opinion that the provision of warehouses near railway stations or other central depôts for cleaning of grain impurities will not produce any beneficial results. In the districts of Monghyr the wheat trade is chiefly in the hands of the Bengali mahajan and Marwaris. They have their principal places of business and golas or storehouses in towns, and several places in the interior of the district, where the produce is stored after being cleaned and weighed until sent off by boat or rail in bags. The Bengali mahajans generally transport their goods by country boats, which take about 14 or 16 days on the voyage down to Calcutta. This is a cheaper means of transport than the railway. The Marwaris, on the other hand, generally dispatch their merchandise by railway. Their business is, however, not so extensive as that of the other traders. The Collector reports that, as far as the wheat and grain trade of his district is concerned, the introduction of the scheme of warehouses near railway stations, for the purpose of cleaning and classifying the wheat, would not be likely to succeed, as so much of the wheat transport is by river route. In the district of Maldah, at the beginning of the harvest, the mahajans themselves go to the interior, collect the wheat, and store it in convenient places till they load their boats for export, which then go direct to their destinations from those places. The wheat before being exported to other districts is not brought to the sudder station or to any other mart, and the establishment of warehouses in this district will therefore

be of little or no advantage. The Collector of Purneah reports: "I do not think the "plan suggested of making provision of warehouses near railway stations or other "central depôts for cleaning wheat from impurities would do near here, as it would be "expensive and throw too much responsibilities on the railway, besides interfering "too much with traders." The wheat export in the district of the Sonthal Pergunnahs is too small to require warehouses. The only District Officer who is in favour of the establishment of warehouses near railway stations is the Collector of Bhagulpore, who says that such a measure will produce good results; but I do not think that the scheme will be successful in his district, as much of the wheat is sent by river route, like in the district of Monghyr.

19.

ASSISTANT TO DIRECTOR, to DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 255, dated Bhagulpore, 30th November 1885.

Mixed crops not serious cause of impurity.

2. Of the three causes to which the impurity of Indian wheat is generally attributed, the first one, viz., the mixture of other grains, due to the practice of growing two or more crops on the same land and at the same time, does not appear to be very serious. This practice is not very common. Oilseeds and gram are sown with wheat, but not very largely; and I agree with you in thinking that the advantage likely to be gained by the cultivator by the production of pure grain will not compensate him for the risk he would incur in trusting to his wheat crop alone. In *dearahs* chiefly this practice is to some extent followed; and as *dearah* wheat is of inferior quality, being *jumali* and *burgohma*, and should therefore be used for home consumption, this practice ought not to have any influence on its export trade.

With the rise in the trade of wheat, it is hoped grain of the fine, soft variety alone will be exported, and with this quality of wheat foreign grains are not often grown. In *bhita* (high land) and *chour* lands, where best *dudhea* is grown, the practice of growing mixed grains is seldom resorted to.

Winnowing should be done by local traders.

3. The second cause alleged for the impure condition of Indian wheat is the imperfect arrangements for winnowing the grain. The present class of cultivators or ryots are unable to introduce a more expensive method of winnowing grain than is in vogue as present. Possessing small holdings, they are hardly in a position to improve the existing mode, unless some cheap winnower is invented, which has not yet been done. The Cawnpore winnower, not much within the means of average ryots, has withal been pronounced a failure. I am afraid a cheap, and at the same time an efficient, winnower cannot be obtained, and expensive winnowers are beyond the means of individual cultivators. Spirit of combination is not much known out here. Grain dealers or exporters of grain are the only persons on whom, in the present state of affairs, the work of cleaning and winnowing grain naturally devolves. Then the question is whether this work should be done in capital towns, or in the mofussil from where the grain is originally sent. The railway freight on goods sent by rail is not inconsiderable, and therefore it would be of much importance if the winnowing be done in the mofussil, perhaps at principal *golas* at sudder stations. The saving in railway freight to be effected by removing dirt and foreign grain before the goods are sent by rail will reduce the incidental expenses of taking the grain to the English market, and thereby increase the export trade. This work can best be done by the *goladars* and mofussil *mahajans*, or by a special firm, and I have no doubt the Agricultural Department can do much in inducing them to undertake the work. Another plan would be to have a thrashing machine sent out from England, and on hire system the crop may be thrashed. The cost of thrashing by machine will not be much more than under the native trading system.

In England the cost of thrashing wheat comes to about 2*s*. a quarter, and in India it would be as much. If coal is dearer, labour is cheaper. Then the same operation will thrash corn and winnow it. Under the native system the exact cost of thrashing and cleaning can with difficulty be obtained. From the "Field and Garden Crops of the North-Western Provinces," issued by the Department of Agriculture and Commerce, I find the cost of thrashing and cleaning wheat for 20 maunds is put down at Rs.3–6. A quarter is equal to six maunds, and therefore the cost of thrashing under the native system is about Rs.1 per quarter, or 2*s*. per quarter.

Systematic adulteration not practised.

4. Dealing with the third alleged cause of the impurity of the Indian wheat, I have the honour to remark that with better knowledge it is hoped this cause will cease to exist of itself. From inquiries made by me, I cannot say that any systematic adulteration is attempted by traders.

20.

ASSISTANT to DIRECTOR, to DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 322, dated Bhagulpore, 15th December 1886.

Messrs. Reinhold's scheme unsuitable.

In continuation of my letter No. 255, dated 30th November 1885, I have further the honour of stating as follows.

Adverting to your paragraph 7 of the letter under reply, I have the honour to submit that the scheme of inspecting and grading wheat, advocated by Messrs. Reinhold of Cawnpore, is not at all suited for the condition of the trade now carried on in Bhagulpore and Monghyr. The *goladars*, through whom this trade is carried on, have tiled sheds for storage of grain. The accommodation, though not very good, is nevertheless sufficient for purposes of giving temporary protection to the grain. The *goladars* are both brokers and warehouse-keepers. I do not think they can be induced to undertake to winnow the grain or otherwise prepare it for the English market. It is hoped something in this direction may be done in future, and perhaps the market prices supplied to us by the Chamber of Commerce, and the translation of which is distributed among the *goladars*, will have some effect in inducing them to pay some attention to the export of clean grain.

21.

COMMISSIONER, Presidency Division, to GOVERNMENT, Bengal, No. 7 M.A., dated 27th January 1886.

With reference to your letter No. 113, dated the 22nd instant, I have the honour to submit the following report on the cultivation of, and trade in, wheat in this division.

2. This report contains information with regard to four only out of the five districts in this division. I will, however, submit a supplementary report on receipt of the report from the Collector of Moorshedabad.

3. There is no cultivation of, or trade in, wheat in Khoolna. The report for that district is therefore blank.

Wheat trade, 24-Pergunnahs.

4. The cultivation of, and trade in, wheat in 24-Pergunnahs is very limited. Only a small area in the northern part of it, near Goberdanga, thana Habra, is under wheat cultivation, and the yield is of a coarse sort, generally called red wheat. The whole of the outturn is exported to Dum-Dum for the consumption of the troops there. The opening out of the Bengal Central Railway has given ample facilities for the transit of the wheat to Dum-Dum, and no special provision seems to be necessary for its storage after it has been brought to the railway station. At present the wheat is bagged and brought to the railway wagons on carts and taken down to Dum-Dum. The wheat thus brought to Dum-Dum contains an admixture of indigenous matters, but here it is cleaned, winnowed according to the native system, ground by small millstones, and reduced to flour. The Collector thinks that some improvement in the processes of grinding and winnowing the wheat is feasible if portable thrashing-machines could be invented for the purposes; but considering the small area under wheat cultivation, Mr. Paul is not sanguine that the cultivation will improve, or that the trade in wheat in his district will develope.

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Wheat trade, Nuddea.

7. In Nuddea a large quantity of wheat is grown in the sudder sub-division, about a hundred thousand maunds being annually exported to Calcutta by river. The sub-divisional officers of Meherpore, Kushtea, and Chuadanga report that only small

quantities of wheat are grown in those parts, and that nearly the whole of the produce is wanted for local consumption. The cultivation of wheat in the Ranaghat sub-division appears to be somewhat larger, and there is some exportation of the grain to Calcutta from that sub-division.

8. The local mahajans cannot say how much of the wheat which they send to Calcutta is consumed in the country, and what quantity, if any, finds its way to the English market. The latter alone, of course, would come under the purview of the resolution of the Punjab Government.

* * * * * *

11. The average outturn per bigha is 3 maunds, and the price varies according to quality from Rs. 2–4 to Rs. 2–8 a maund. Mr. Hopkins observes that there does not seem to be much ground for Government interference for providing a cleaner grain for exportation. As a rule, the seeds of the different varieties of wheat are sown separately, and whatever may be the case in the Punjab or elsewhere, neither the actual cultivators nor the middlemen in Nuddea appear to be in the habit of *intentionally* mixing the wheat with other seeds or with dirt. Considering, however, that the thrashing is done by making cattle tread on the grain on a mud floor, and that the winnowing is effected by merely exposing it to the action of the wind, there cannot but be some impurities. But, as remarked by the Director of Agriculture, North-Western Provinces and Oudh, even with these rude and simple means "the "cultivator can, and often does, clean down to two per cent. of impurities, but the "consignees insist on deducting four per cent. on this account from the purest samples "they receive, thereby occasionally making a not wholly deserved profit."

12. None of the mahajans or middlemen of Krishnaghur who send wheat to Calcutta seem to have direct dealings with the merchant shippers to England. They state that they have not been hitherto called upon by the mahajans of Calcutta, with whom they have dealings, to supply a cleaner grain; and if there is such a demand, the supply would, no doubt, be forthcoming.

13. The suggestions made by Messrs. Reinhold Brothers, of Cawnpore, to have a cleaning shed at that station, where certificates regarding quality would be granted by a Committee comprised of a railway officer and an officer of Government from the Agricultural Department, could, Mr. Hopkins observes, be hardly meant to apply to any of the railway stations or other central depôts in his district. The importation of wheat from Kushtea, Chuadanga, or Ranaghat is small, and there is at present no railway to Krishnaghur.

14. Generally speaking, Mr. Hopkins concurs with the Director of Agriculture, North-Western Provinces, in thinking that, should it really be anywhere necessary to take steps for obtaining a cleaner grain, it is "precisely the kind of thing which ought "to be done by private agency, and Government should not interfere unless the "Chamber of Commerce find that they are unable to insist on proper arrangement "being made."

Jessore wheat trade.

15. The Collector of Jessore states that his district cannot be regarded as a wheat-producing district in any sense of the term * * * So far as Jessore is concerned, the question of the advisability of erecting warehouses for cleansing the grain from impurities need not be discussed. It may be mentioned here that some time ago, in accordance with a suggestion from the Government of Bengal, the sub-divisional officers in this district were instructed by the Collector to impress on the cultivators the importance of preventing the admixture of any foreign substance with wheat in order that they might realise the proper value for their produce.

22.

From COVENANTED DEPUTY COLLECTOR in charge Moorshedabad, to COMMISSIONER, Presidency Division, No. 2310G., dated 30th January 1886.

Moorshedabad.

I have the honour to submit the following report regarding the cultivation of, and trade in, wheat in this district, called for in your No. 13M.A. of the 10th August 1885.

2. A statement showing, thana by thana, the area under this crop, and the total outturn, is annexed.* The quantities are fairly large, but there are no data for ascertaining how much of the produce is consumed at home, and how much is exported elsewhere. The latter quantity, however, cannot be so large as to require special regulations, nor can the trade be so extensive as to render warehouses of the kind suggested necessary.

3. Three varieties of the grain are grown in this district, *viz.*, *gungajali*, *jamali*, and *khore*. They are named in order of quality.

Causes of impurity of wheat.

4. Wheat is grown on *mutter* land and is cleaned by winnowing. It is sown in October and November and reaped in March and April. It is quite free from impurities when brought from the cultivators by the traders, but the latter are in the habit of adding to it an admixture of other matter in order to increase the weight. If people would take none but clean wheat, this practice of adulteration might cease; but this cannot be hoped for so long as purchasers continue to look more to the cheapness than to the purity of the grain they buy.

23.

From BENGAL CHAMBER OF COMMERCE, to GOVERNMENT, Bengal, dated 13th November 1885.

I am desired by the Committee of the Bengal Chamber of Commerce to acknowledge receipt of your letter, dated 25th July, with its accompanying papers, on the subject of the wheat trade of the Punjab, with regard to which you request an expression of opinion on the bearing of these papers on the wheat trade in Bengal, with such practical suggestions as the Committee may wish to offer.

2. In reply, I beg to say that the attention of the Chamber has, as requested, been particularly given to paragraphs 7 and 8 of the Resolution of the Punjab Government, which deal with the action of small middlemen in the matter of adulteration, and discuss the question of establishing cleaning depôts at selected stations. The Committee are now enabled not only to express their own views on these points, but also those of the Committee of the Wheat and Seed Trade Association, to whom the papers have been referred for opinion.

Cultivators should be advised not to sow mixed wheat.

3. As regards paragraph 7 of the above Resolution, it is the opinion of the Chamber that Government officers should be instructed to continue to impress upon the cultivators and middlemen the importance of keeping their wheat as clean as possible, and of sowing, as far as practicable, different descriptions of produce in separate fields. It might also be explained to them that No. 1 club wheat, or the Delhi and Buxar varieties of soft white grain, and No. 2 club, consisting of Cawnpore-Lucknow grain, command a higher price than other descriptions, and efforts might be made to introduce these varieties into districts where only the inferior qualities of grain, difficult of sale for export, have hitherto been cultivated.

No remedy against wilful adulteration.

4. The mixing of dirt or inferior grains by mofussil dealers is a matter against which the Chamber is unable to suggest any remedy; but, no doubt, when these dealers realise the loss sustained by the reduction of weight paid for due to express refraction, they will see their advantage in sending to the market wheat fit for immediate export, thus saving additional charges at the port of shipment.

Extension of cart-roads advocated. Cleaning depôts unnecessary.

5. With reference to paragraph 8 of the Resolution of the Punjab Government, it is the opinion of the Chamber that much good would possibly be done in the direction of the development of the wheat trade by improving communications between the districts of growth and the different railway stations by means of cart-road feeders. It is considered that central cleaning depôts are neither necessary, advisable, nor practicable, as the expense that would be incurred in using them for cleaning an article of such low primary value as wheat would increase the cost out of proportion to the improved price which might be obtainable for the cleaned grain in the home markets.

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* NOTE.—The statement, which is not reproduced, shows the total acreage for the district as 236,183, and the estimated outturn as 923,223 maunds.

24.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to GOVERNMENT, Bengal, No. 692, dated 27th July 1886.

In continuation of my letter No. 391 T., dated the 7th instant, submitting a report on the subject of the cultivation of, and trade in, wheat, I have the honour to forward, for the information of Government, a copy of the correspondence with the Bengal Chamber of Commerce, on the question of the reduction of the per-centage of refraction allowed by the trade in wheat.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to SECRETARY, Bengal Chamber of Commerce, No. 134, dated Calcutta, the 16th April 1886.

Interference of Chamber of Commerce suggested.

I send herewith a rough draft of portion of a letter on the subject of wheat, about which I sent you a letter on a former occasion. You will see that the opinion strongly held by Mr. Allen and others who have made special inquiries on the subject is that the only remedy for the admixture of dirt with Indian wheat is one which lies in the hands of the merchants themselves. If this be so, I should be glad to be able to add that the Chamber will take the subject into consideration with a view to apply the remedy suggested. If, on the other hand, the opinion expressed is incorrect, I should be obliged for any correction which your Committee may suggest before officially expressing the view suggested in the draft.

From SECRETARY, Bengal Chamber of Commerce, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated the 11th June 1886.

Alteration of refraction impossible at present.

My Committee have consulted with those most directly interested on the export trade of this city as to the reduction of the per-centage of the refraction allowed in wheat. It would be an advantage to have wheat as pure as possible, and to impress upon cultivators the desirability of their sending their grain to market with the least possible admixture of foreign substances; but in the present circumstances of the trade, my Committee do not feel themselves in a position to recommend an alteration in the standard of refraction for wheat.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to SECRETARY to the Bengal Chamber of Commerce, dated Darjeeling, the 14th June 1886.

Then Government cannot intervene to secure pure wheat.

In your letter of the 3rd May, it was stated that the Committee of the Wheat and Trade Association agreed with the tenor of my draft letter, and were prepared to consider the suggestion to reduce the rate for refraction. In your present letter you do not say whether the Committee still agree with the tenor of the draft, but you say the Chamber think that it would be an advantage to impress on the cultivators the desirability of producing grain with the least possible admixture of foreign matter. If the facts and arguments mentioned in my letter are correct, the inference from them would appear to me to be that Government officers, so far from impressing on cultivators the desirability of producing clean grain, should, on the contrary, point out to them the fact that they will derive no benefit from producing entirely clean grain, but that it is to their interest to mix at least five per cent. of dirt. I should be much obliged if you would kindly let me know whether there is any fallacy in this view of the case, and if not, perhaps you may induce the Committee to re-consider their decision.

TELEGRAM from SECRETARY, Bengal Chamber of Commerce, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated the 1st July 1886.

Decision that of Trade. Chamber cannot alter custom.

25.

GOVERNMENT, Bengal, to DIRECTOR, Department of Land Records and Agriculture, No. 1899–304, dated 10th August 1886.

I am directed to express the thanks of the Lieutenant-Governor for the careful report on the cultivation of wheat in these provinces contained in your letter No. 391 T., dated 7th July 1886.

Cleaning wheat. Chamber's inaction regretted.

The Lieutenant-Governor regrets to observe from the correspondence subsequently forwarded under cover of your letter No. 692, dated 27th July 1886, that the Chamber of Commerce has declined to re-open the question of an alteration in the standard of refraction for wheat. Sir Rivers Thompson trusts, however, that if the prospects of the trade improve, it may be possible for the Chamber to take action in this important matter, and in this hope has again addressed that body on the subject.

Warehouses to be left to private agency.

2. The establishment of warehouses for cleaning and grading grain is a matter which should be left to private agency, and the Lieutenant-Governor concurs in the opinion expressed by you and the majority of the officers consulted on the subject that Government interference in this respect is clearly undesirable.

26.

From GOVERNMENT, Bengal, to CHAMBER OF COMMERCE, No. 1896–301, dated 10th August 1886.

Further reference to Chamber of Commerce.

I am directed to forward for information copy of a letter No. 391 T., dated 7th July 1886, and enclosures from the Director of the Agricultural Department, Bengal, reporting on the wheat cultivation and trade in Bengal, and to invite the attention of the Chamber of Commerce to the remarks made therein regarding the present deduction of 5 per cent. made for impurities in wheat, irrespective of the cleanness or otherwise of the samples. The matter is one of great importance to all engaged either in the cultivation of wheat or in the wheat trade; and although the Lieutenant-Governor understands that the present time is unpropitious for any action in the direction indicated by the Director of Agriculture, he trusts that the Chamber of Commerce will be able at no distant date to bring about so desirable a reform.

27.

From CHAMBER OF COMMERCE, to GOVERNMENT, Bengal, dated 15th September 1886.

The Committee of the Chamber of Commerce instruct me to acknowledge your No. 1896—301-Agri., dated 10th August, in which the attention of the Chamber is invited to the present deduction of 5 per cent. made for impurities in wheat, irrespective of the cleanness or otherwise of the sample, and in which a hope is expressed that the Chamber of Commerce may be able at no distant date to bring about a reform which His Honour the Lieutenant-Governor agrees with the Director of Agriculture in considering desirable.

Reasons why refraction cannot be altered.

In reply, I am to say that in again discussing the question of the refraction of wheat the Committee of the Chamber have availed themselves of the views and opinions of the Calcutta Wheat and Seed Trade Association. The Chamber of Commerce is quite as desirous as the Government to secure that Indian wheat shall be exported as free from admixture as possible, and keeps this result steadily in mind in all discussions bearing on this subject. But although parcels of fairly clean wheat do reach Calcutta, they are so small as to have no effect on the market. An exporting merchant is precluded from giving a better price for such parcels, because he will reap no corresponding advantage in the home market. If clean wheat were delivered in Calcutta in large quantities, the case would be different.

The system explained.

The Director of Agriculture remarks that, "a minimum of 5 per cent. refraction is deducted by exporters in Calcutta;" this is a misapprehension. No deduction of weight is made unless the impurities in a parcel exceed 5 per cent. It is because experience shows that wheat can seldom be delivered in Calcutta with a less amount of admixture than 5 per cent., that the Committee do not see their way to recommend an alteration of the standard of refraction. The officers of Government may render the

trade most valuable service by steadily impressing upon the cultivators that, what is most objectionable in Indian wheat in the eyes of home buyers, is the presence in a parcel of other grains and seeds, such as barley, pulses, linseed and the like. Mud and earthy matter can be eliminated without very great difficulty, but it is next to impossible to separate other grains and seeds from the wheat. So long as Indian cultivators grow wheat crops carelessly, or along with, or side by side with, other grain or seed crops, so long will it be difficult to obtain wheat in quantity of a purity which would enable exporters to alter the standard of refraction. But real service would be done both to the trade and the cultivators if the officers of Government kept steadily before growers of wheat that it is principally the admixture of foreign grains and seeds which maintains the 5 per cent. standard of refraction, and also impressed upon them that to obtain a better price for clean wheat, such wheat must be sent into this market in large quantities.

Condition of railway storage accommodation.

Connected with the question of the condition in which wheat reaches this market, is the very important question of the accommodation for it provided at up-country stations, especially on railways other than the East Indian line. It is hopeless to expect to improve the hold of Indian wheat on the European market so long as there is nothing at certain times to prevent its reaching Calcutta weather-damaged. The absence of proper and sufficient accommodation at railway stations for receiving wheat has mulcted shippers in very heavy allowances, and is one of the main causes of bringing Indian wheat into disfavour with home consumers. The wheat season extends from April to October, and as soon as the rains set in the lack of proper accommodation results in a portion of nearly every parcel arriving damaged. Not only is the shelter insufficient, but in many cases the railway platforms are not raised to the point of safety from casual inundations. The railways endeavour to protect themselves by granting to a consignor clear railway receipts against his indemnity note. This practice, when regard is had to the short time allowed at Howrah for the examination of wheat by consignees, and also to the limited facilities they enjoy for such an examination, results in large quantities of damaged goods passing undetected to the manifest and serious loss of shippers.

Reform in railway storage much needed.

The Committee of the Chamber of Commerce would in the best interest of the wheat trade bring this question of the accommodation at up-country stations very strongly to the attention of His Honour the Lieutenant-Governor.

28.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to GOVERNMENT, Bengal, No. 1265, dated 18th August 1887.

I have the honour to acknowledge the receipt of your memorandum No. 1258 T.—R., dated 29th of September last, forwarding, for any remarks I may wish to make, a letter from the Secretary to the Chamber of Commerce, dated 15th idem, in which comment is made on certain remarks made by me on the subject of wheat refraction, in a report submitted with my letter No. 391 T., dated 7th July 1886.

2. The remarks made as regards refraction in that report were the following :—

Real cause of impurity the refraction system.

"The real reason why Indian wheat is adulterated by admixture of foreign substances lies, not in defectiveness of winnowing arrangements, but in the fact that it is not to the cultivator's interest to produce entirely clean grain; for so long as a minimum of 5 per cent. refraction is deducted by exporters in Calcutta, it is evident that it is the interest of the producer to mix dirt with the grain to that extent at least. It was suggested that the remedy therefore lies not in the introduction of better winnowing arrangements so much as in the alteration of the present system of deductions for refraction.

Mr. Allen confirms these views by saying :—

"Similar arguments apply to adulteration of mud, &c. These, I believe, the ryot does not add wilfully, because the bepari or petty trader to whom he sells would detect them in his small consignment and pay him an inferior price. On the other hand, the petty trader does not insist on cleaned grain, for he will not himself sell grain containing less than 5 per cent. of impurities, which, if deficient, he will add; for so long as the Calcutta merchants accept 5 per cent. as refraction, it would not pay the bepari to sell grain with only 1 or 2 per cent. of adulteration. This brings me to the real

point of the whole question. It is purely a case of supply and demand. If the Calcutta merchants insisted on cleaned grain, they would get it. They do insist on clean samples in the case of linseed, and the result is that linseed is cleaned by the actual cultivators before being sold to the petty dealers. The same result would, I believe, follow in the case of wheat. As matters now stand, wheat in Patna is freely adulterated. Ralli Brothers in Patna City deal only with the petty dealers, and these refuse to give any guarantee with the wheat sold. Each lot has to be tested both for impurities and for the per-centage of red grain before the price is fixed. If the samples tested happen to be superior to the bulk, the bepari gains. If they should be inferior, the bepari can refuse to deal, and so he cannot lose either way. The cultivators never get a fair price, for the brokers and the aratdars have each to get their commissions on each transaction between the bepari and Ralli Brothers. In some marts, where the grain comes chiefly from the neighbourhood, it might be possible for Ralli Brothers to deal directly with the actual cultivators; but in Patna, where the grain comes largely from Gorakhpore and Fyzabad, this is impossible, and the agent for Ralli Brothers is compelled to deal with the petty dealers whose interest it is to cheat him if they possibly can.

"Since writing the above, I have had a remarkable confirmation of these views from the manager of the Dumraon Raj, the Honourable Jai Prokash Lall. The statements he made were so significant that I took a note of them at the time, and at the same time informed him that I should embody them in this report. The manager said that, about two years ago, when the prospects of the wheat trade were apparently good, he seriously thought of cultivating wheat on a large scale. He estimated that on the Rajah's estates there were 300,000 acres of land capable of growing wheat, and he proposed commencing operations with a capital of two lakhs. His idea was to induce the ryots to grow wheat alone by means of advances in coin and seed, and he intended purchasing machinery, such as he had seen at the Calcutta Exhibition, for cleaning the grain. All that he now required was a remunerative market. Last year, when in Calcutta on Council business, he called at the office of Ralli Brothers, and after telling them his plans asked what price they would give for clean grain. *Ralli Brothers informed him that owing to the action of the merchants in England they could not afford to pay more for a clean sample than they now did for grain with* 5 *per cent. refraction. Upon hearing this the manager abandoned the idea of growing and cleaning wheat on a large scale.* It is difficult to over-rate the significance of this anecdote, which appears to prove conclusively that so long as merchants will not pay a higher price for clean grain, it is useless for Government to think of inducing cultivators to change their present practice.

Better prices denied for clean wheat.

"I then asked the manager about wilful adulteration. He said that he had a gola at Itarsi, near Buxar, from which he used to sell wheat on rather a large scale to the agent of Ralli Brothers at Buxar. The wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly his servants were directed to mix two maunds of earth with every 100 maunds of grain, so as to bring the adulteration up to the required standard. This earth was treated with water and specially prepared for the purposes of adulteration. The suggestion for adulterating the grain in this way came, as the manager says, from the employés of Ralli Brothers. This fully bears out what Major Boileau says, that grain-dealers in Dinapore wilfully adulterate their grain, adding about two maunds and thirty seers of dry clay, bhusee, and other grains to every hundred maunds of wheat. Mr. T. Gibbon, C.I.E., the manager of the Bettiah Raj, told me that wilful adulteration was practised by the petty dealers in Chumparun, and Mr. Carnduff, writing from Hajipore, a large grain mart, says:—'In the hands of 'the middlemen, when the grain is lodged in their golas, such grains as *akla pipra* are, 'I understand, intentionally added with a view to adulteration.' Mr. Jenkins from Buxar, who has clearly paid a good deal of attention to the subject, is of the same opinion.

Wilful adulteration: why practised.

"Messrs. Mylne and Thompson have pointed out to me that the adulteration of *gúr* is analogous to the adulteration of wheat. When their sugar-mills were first introduced, they were valued by the purchasers on account of their saving labour and not because they turned out a cleaner article. Even now the Bunniahs in Jagdispore refuse to pay a higher price for *gúr* free from adulteration, and though the cultivators *can* produce clean *gúr*, and *will* do so if required, it does not pay them to clean the *gúr* they sell in open market. There is now, however, a tendency among European firms to pay a higher price for purer *gúr*; similarly, if the merchants would reduce their standard of refraction, they would get cleaner samples of wheat. This question is treated exhaustively in the report from Shahabad, and it is so difficult to make

extracts without omitting something of interest, that I venture to suggest that the whole report be sent in original. The possibility of cleaning grain with the ordinary tray-shaped pan (soop) is pointed out by the Collector of Sarun and in the report from the Patna district.

"As regards, then," I added, "the alleged imperfection of present arrangements for winnowing, it will thus be seen that the mixture of dust from the threshing-floor forms a very small portion of the impurities found in Indian grain, and that the present arrangements for winnowing are as good as can be hoped for under present conditions. It will of course be desirable to effect improvements in winnowing and threshing, should any be found possible; but the root of the evil complained of can only be reached by the abolition of the system of allowing a minimum refraction of 5 per cent., a remedy which lies in the hands of the merchants themselves. The facts mentioned by the manager of the Dumraon Raj shows conclusively that clean grain will be forthcoming if the merchants pay for it, and that it will not be forthcoming, however perfect the winnowing and threshing arrangements may be, so long as a minimum of 5 per cent. is allowed for impurities, be the samples ever so clean.

"These facts and arguments have been brought to the notice of the Calcutta Chamber of Commerce, who, while not denying their force, express regret that they are unable in the present state of the trade to alter the existing practice in this respect. As long as that practice continues, it would appear to me to be futile for Government officers to talk to cultivators of the advantages of producing entirely clean grain. On the contrary, if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is to their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale."

3. The Chamber, in reply to the remarks above quoted, observed that:—

"In again discussing the question of the refraction of wheat, the Committee of the Chamber have availed themselves of the views and opinions of the Wheat and Seed Trade Association. The Chamber of Commerce is quite as desirous as the Government to secure that Indian wheat shall be exported as free from admixture as possible, and keeps this result steadily in mind in all discussions bearing on this subject. But although parcels of fairly clean wheat do reach Calcutta, they are so small as to have no effect on the market. An exporting merchant is precluded from giving a better price for such parcels, because he will reap no corresponding advantage in the home market. If clean wheat were delivered in Calcutta in large quantities, the case would be different.

Calcutta Chamber's explanation of refraction system.

"The Director of Agriculture remarks that 'a minimum of 5 per cent. refraction is 'deducted by exporters in Calcutta;' this is a misapprehension. No deduction of weight is made unless the impurities in a parcel exceed 5 per cent. It is because experience shows that wheat can seldom be delivered in Calcutta with a less amount of admixture than 5 per cent. that the committee do not see their way to recommend an alteration of the standard of refraction. The officers of Government may render the trade most valuable service by steadily impressing upon the cultivators that what is most objectionable in Indian wheat in the eyes of home buyers is the presence in a parcel of other grains and seeds, such as barley, pulses, linseed, and the like. Mud and earthy matter can be eliminated without very great difficulty, but it is next to impossible to separate other grains and seeds from the wheat. So long as Indian cultivators grow wheat crops carelessly or along with, or side by side with, other grain or seed crops, so long will it be difficult to obtain wheat in quantity of a purity which would enable exporters to alter the standard of refraction. But real service would be done both to the trade and the cultivators if the officers of Government kept steadily before growers of wheat that it is principally the admixture of foreign grains and seeds which maintains the 5 per cent. standard of refraction, and also impressed upon them that to obtain a better price for clean wheat, such wheat must be sent into this market in large quantities."

4. I have hitherto refrained from making any comment on the Chamber's remarks, because it appeared to me that the object which the Chamber and Government alike had in view, namely, that of promoting the interest of producers and traders in Indian wheat, by the adoption of measures for prevention of adulteration of wheat by admixture of foreign substances with it, would not be served by entering on a discussion which could lead to no substantial results. It was therefore thought desirable to endeavour to take some such action as would bring the questions at issue to a practical test, and it is rather with a view to report the results of this action, than

from a desire to criticise the letter of the Chamber of Commerce, that I now address you.

5. One or two remarks may, however, in passing, be here made on the Chamber's letter.

Practical effect of the system.

It may at once be admitted that the phrase "a minimum of 5 per cent. refraction is deducted by exporters in Calcutta" is misleading. Five per cent. is not deducted from the actual weight of wheat when it arrives in Calcutta, but prices are fixed on the assumption that all wheat contains at least 5 per cent. of foreign matter; and given say 100 maunds of best Buxar wheat landed in Calcutta free from dirt, my contention was that the price per maund which such wheat would realise was not more than that same grain would fetch if mixed with 5 per cent. of dirt. I do not understand, from the discussions which have taken place on the subject, that the correctness of this statement is disputed, and if this be so, it would appear that the practical effect of the system as regards encouragement of adulteration is the same as if 5 per cent. were deducted from every 100 maunds of clean grain. I admit, however, as already remarked, that the phrase used was somewhat misleading; but I may perhaps be allowed to plead in excuse for it that the report in which it occurred was laid before the Chamber before it was published, that criticisms were invited upon it, and that attention was specially called to the remarks on the subject of refraction, but no exception was taken to them; on the contrary, the accuracy both of the statements of facts and of the conclusions deduced from them would appear from the correspondence which took place to have been admitted.

Efforts to get better price for clean wheat.

6. Coming to the real subject-matter of this letter, I now beg to report what measures have been taken to bring the question at issue to a practical test, and the degree of success which has attended those efforts. It will be remembered that the Honourable Jai Prokash Lal, manager of the estates of the Maharajah of Dumraon, had stated that he had at one time formed a plan to induce his ryots to grow wheat on a large scale alone without admixture of other crops, but that he abandoned the idea because he found that he could not obtain a higher price for clean wheat than for the same grain mixed with 5 per cent. of dirt or other foreign substance. This gentleman came down to Calcutta in March last and expressed his willingness to reconsider his decision.* Accordingly I addressed certain Calcutta firms named in the margin and inquired whether they would guarantee a higher price for clean wheat than for the same quality of grain mixed with 5 per cent. of dirt. It will be seen from the correspondence which is annexed that none of these firms were at that time in a position to offer higher prices for clean grain than for the same grain mixed with 5 per cent. of dirt; but they expressed their willingness to send samples of pure wheat to England if supplied with it by the manager of the Dumraon Raj or Government, with a view to ascertain whether it would there fetch an adequate price.

Experiment with steam thresher.

Messrs. Marshall Sons & Co., Gainsborough, England, about this time proposed to bring one of their steam wheat-threshing machines from Bombay, and by means of it to clean wheat down to 2 per cent. of impurities, and also to purchase some wheat thus threshed and cleaned, and send a small consignment of 200 to 300 tons of it to England in order to ascertain whether it would command a higher price than ordinary Indian wheat mixed with dirt. They asked Government to co-operate by making a grant of Rs. 1,000 towards defraying the charges of carriage of the machine. This grant was made, and the machine was accordingly brought from Bombay and tried at Dumraon in May last.

7. It was found that the machine failed to separate wheat from *bhut* or gram, and it was then too late to obtain a sufficiently large quantity of wheat which had been grown alone to permit of the original plan of sending 200 or 300 tons to England being carried out. Experiments were, however, made on a limited scale, and samples of the steam-threshed grain were sent to the Chamber of Commerce, to the Agri-Horticultural Society, and Messrs. Ralli Brothers for appraisement. The reports of the Chamber of Commerce and of Messrs. Ralli Brothers are annexed. According to the report of the latter the grain threshed in the ordinary way contained $5\frac{1}{8}$ per cent. of impurities; the steam-threshed wheat contained only $1\frac{7}{8}$. But the steam-threshed wheat, on the other hand, was to some extent chipped and broken. Messrs. Ralli Brothers point out that it is impossible to fix the relative values of the two samples, and add that if the steam-threshed sample were delivered against a contract, allowing 5 per cent. refraction, the seller would derive no advantage from the superior purity

Valuation of results.

* Messrs. W. Vale King & Co.; Messrs. Petrocochino Brothers; Messrs. Ralli Brothers.

of the sample. The Committee of the Wheat and Seed Trade Association say that the bullock-threshed grain contained 9 per cent. of foreign matter, and was practically unmerchantable, while the steam-threshed wheat refracted only $3\frac{3}{4}$ per cent. The value of 100 maunds of the former they put down at Rs. 279, and of the latter at Rs. 290–10.

8. It will thus be seen that these experiments, though they show that wheat can be cleaned down to 2 or 3 per cent. of refraction, yet are not decisive on the question whether wheat so cleaned will command an adequate price.

9. It will, however, be satisfactory to Government and to the public to learn that Messrs. Ralli Brothers have, as will be seen from their letter dated 21st July 1887 (reproduced as an annexure to this letter), lately shipped to Marseilles two samples to be there sold on their merits one with 6 per cent. refraction, the other cleaned down to 3 per cent. The former cost Rs. 2-14-4 per maund, the latter Rs. 2-15-11, including cost of cleaning at three pies per maund; and it remains to be seen whether the latter will command such a price as would make the repetition of the experiment on a large scale profitable. I entirely agree with Messrs. Ralli Brothers "that improvement in "the condition, or rather impurities which are contained in Indian wheat, will result "in accordance with the requirements of the consuming countries; if they wish to "receive cleaner wheat and pay for it accordingly, cleaner wheat will be exported, "because exporters will adapt themselves to the requirements of consumers." But I differ from them when they say "at the same time this result will also be obtained by "the endeavours of the Agricultural Department in the way of impressing on "cultivators the necessity of supplying wheat as free of the admixture of other grains "as they possibly can." I think there is a tendency to attach too much importance to the influence of Government officers in such matters—at least in Bengal. Ryots, if urged by Government officers to do anything which it is their interest or inclination to do, are only too willing to accept such advice and to shield themselves behind it; but when there is a question of doing something which it is not their interest nor their inclination to do—for instance, payment of public cesses—the advice of Government officers goes for little, and their interference in matters which do not fall within their province, when not necessary, does more harm than good. Concerning the question under discussion, I have heard of a case in point in which ryots having been urged by their Sub-divisional Magistrate to sow wheat without mixture of other grains, showed their appreciation of his interference by dropping the cultivation of it altogether.

Messrs. Ralli Bros.' views.

Government influence exaggerated.

10. It appears to me that it is as unreasonable to dictate to the growers of wheat in this matter, as it would be to dictate to the shippers in Calcutta what their pecuniary interests may be, or to expect them to act in a manner opposed to those interests. But it is also as futile to blame the producers for growing other crops with wheat if they find it profitable to do so, as it is to impute blame to merchants in Calcutta for purchasing and shipping wheat mixed with dirt so long as there is a demand for dirty wheat in Europe, and adequate profit cannot be obtained by shipping clean grain. The experiment now being made by Messrs. Ralli Brothers will tend to show whether such profit can be obtained. If it should turn out that a remunerative price can be got for clean grain, then there can be little doubt that Messrs. Ralli Brothers would ship clean wheat, that the example set by them would be followed by others, and that the refraction would thus be soon reduced. If, on the other hand, it is found that consumers in Europe prefer dirty wheat, and will not pay for a clean article, then, as the "Economist" pointed out in a note in its issue dated 16th October 1886, from which an extract is quoted below,* the fault (if fault it be) will have been brought home to the right parties, and if remonstrance is to be addressed or pressure is to be

Government cannot dictate to growers.

Clean wheat will follow on better prices.

* "The report is in answer to a Government circular in which, amongst other things, attention was directed to the necessity of obtaining clean grain for export. It appears that at present the grain is mixed with dirt, &c., and it has also been ascertained that this is a fault that could be rectified were it not for a peculiar trade custom. The Calcutta merchants (who in their turn declare that they act under the compulsion of the merchants in England) insist, when buying wheat, upon making a 5 per cent. deduction for impurities, no matter how clean the samples may be. Consequently, the intermediary who sells takes good care that this percentage of impurity is attained, and if it should be the case that the grain he has to dispose of comes to him clean from the cultivator, he at once sets about to adulterate it by mixing two maunds of earth with every 100 maunds of grain. Although this result of their rule has been pointed out to them, the Calcutta merchants have the boldness to ask that the Government should come to their assistance. Speaking for themselves and for the Committee of the Wheat and Seed Trade Association, the Bengal Chamber of Commerce ask that 'Government officers should be instructed to impress upon the cultivators and middlemen the importance of keeping their wheat as clean as possible.'

"And no doubt it would be very pleasant for the members of those Associations and for merchants here as well, if they were enabled to get their full 100 per cent. of clean wheat while paying only for 95 per cent. of wheat and 5 per cent. of dirt. The cultivator or native dealer, however, naturally takes a different view of the

brought to bear by Government on any of the parties concerned, such remonstrance would have to be addressed by Her Majesty's Secretary of State to merchants in Europe. It must, however, be remembered that it was not Government or any of its officers who first moved in this matter, but that it was the Bengal Chamber* which drew attention to the evil complained of and requested Government to take action, and that all Government has done in reply is to point out that the action suggested is not legitimate, and that the remedy for the evil lies in the hands of the merchants either here or at home, or in the hands of the consumers in Europe. In this connexion I would take this opportunity to remark that when in a former report it was said by Mr. Allen that the employés of Messrs. Ralli Brothers had told the Manager of the Dumraon Raj to mix two maunds of dirt with every 100 maunds of wheat, it was not meant to imply that Messrs. Ralli themselves, or any of their European assistants, recommended anything of the kind, though some of their subordinates certainly did so. So far from imputing any objectionable practices to Messrs. Ralli or their principal assistants, I have to acknowledge my thanks to them, as well as to the Chamber of Commerce, for the valuable advice and information in my inquiries on this question. With regard to the experiment in shipping clean samples, now being made by Messrs. Ralli Brothers, it may be here observed that as nineteen-twentieths of the wheat shipped is sold before it is bought by Calcutta shippers, the result of the sale of a small parcel of clean wheat *after arrival in Europe* must not be too readily expected to upset the conditions under which the trade has hitherto been worked. As all shipments of Indian wheat are now either approved or disapproved by home buyers after comparison with a standard sample of average shipments made up monthly by the London Corn Trade Association, the sales of clean wheat must either be made on small samples sent home from here—or wheat, like seeds, must be analysed at home. In either case it will be slow and difficult work to introduce a marked and sudden innovation into a well-established trade.

Remedy lies with exporters and European consumers.

Obstacle imposed by system of forward contracts.

Comparison between steam and bullock threshing.

11. With a view to test the relative merits of steam-threshing and threshing by having grain trodden out by bullocks in the ordinary native fashion, one ton of wheat was carefully weighed and passed through the steam-threshing machine at Dumraon. It took 40 minutes to pass through, but the engine was not working with full power. Mr. Scott, the mechanic in charge, was of opinion that with full power the work would have been finished in half an hour. Besides Mr. Scott, a native mechanic and six coolies were employed in working the steam thresher.

When threshed the crop was weighed, and the results were—

	Cwt.	qrs.	lbs.
Of clean grain - - - - - -	8	3	3
Of cattle food - - - - - -	0	1	13
Of straw - - - - - -	5	3	14
Of chaff - - - - - -	4	3	20
	19	3	22

12. One ton of the same wheat was next threshed in the native system. With 10 bullocks this work took eight hours to complete. Four coolies were employed in threshing for eight hours and the same number in winnowing for four hours.

The cost of threshing in this case came to Rs. 1-11, thus—

	Rs.	a.	p.
Hire of 10 bullocks, at 1½ anna each - - -	0	15	0
Wages of four coolies for eight hours - - -	0	8	0
,, ,, ,, four ,, - - -	0	4	0
	1	11	0

or, say, two annas per maund of threshed grain.

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transactions. If you want wheat, he says, you must pay for it, and if you only pay for dirt, then dirt you will have. This is only reasonable, and Mr. Finucane is quite right when he expresses the opinion that so long as the rule of the merchants remains as at present, 'if Government officials interfere at all in the matter, it should be by explaining to the cultivators that it is in their interest to mix at least 5 per cent. of foreign matter with clean grain before offering it for sale.' It is a pity, however, that the Indian wheat trade should be hampered by such absurd rules, and it is desirable that it should be clearly understood here where responsibility in the matter mainly rests."—*Economist* of 16th October 1886.

* *Vide* their letter dated the 24th July 1883, to the address of the Government of India, Revenue and Agricultural Department.

When threshed the weight of grain and straw was as follows :—

	Cwt.	qrs.	lbs.
Grain - - - - - - -	9	2	15
Straw - - - - - - -	9	3	0
	19	1	15

Taking the value of the steam-threshed grain, as estimated by the Chamber of Commerce, at Rs. 290-10 per 100 maunds, and the bullock-threshed grain at Rs. 279 per 100 maunds, the financial results stand thus—

	Rs.	a.	p.
100 tons of unthreshed corn if threshed by steam machine will yield—			
1,200 maunds of grain with $3\frac{3}{4}$ per cent. refraction, valued at Rs. 290-10-0 per 100 maunds by Chamber of Commerce (omitting fractions) - - - - - - -	3,487	0	0
100 tons of unthreshed corn if threshed by bullocks will yield—			
1,316 maunds of grain with 9 per cent. refraction, valued at Rs. 279 per 100 maunds - - - - - - -	3,671	0	0
Difference in favour of bullock-threshing and dirt per 100 tons of unthreshed corn - - - - - - -	184	0	0

Against this balance in favour of bullock-threshing must, however, be set off—

	Rs.
(*a.*) Cost of carriage of 116 maunds of extra dirt from Dumraon to Calcutta, at Rs.39 per 100 maunds - - - -	45
(*b.*) Extra cost of bullock-threshing as compared with steam-threshing, at one anna per maund, on 1,316 maunds - -	82
	127

The difference in favour of bullock-threshing is Rs.57.

Advantage in favour of bullock threshing.

It thus appears that even after making all reasonable deductions for carriage of dirt and for saving of labour by steam-threshing, the balance of advantage to the ryot, according to the figures furnished by the Chamber of Commerce, would still be on the side of bullock-threshing and admixture of dirt. I have taken the cost of steam-threshing at one anna per maund, as estimated in Bombay; but as labour is cheaper in Behar, this would possibly be above the mark there, It is, however, to be remembered, on the other side of the account, that the initial cost of the machine, the interest on the capital outlay on it, the difficulty of obtaining skilled men to work it, the difficulty of providing other suitable employment for such men when the machine is not at work, have all been left out of consideration.,

13. These results are only of interest in making a comparison between the relative merits of steam-threshing and threshing by bullocks, and do not affect the question of refraction. As regards the latter point it is immaterial whether clean wheat is produced by steam-threshing or in any other way. The crucial question is, will clean grain, however produced, fetch a remunerative price as compared with unclean grain, and the answer would appear to be in the negative so far as wheat threshed with Messrs. Marshall and Company's machine in Behar is concerned, at least so long as the present system of refraction continues. Further experiments with the steam-thresher will, however, be made under more favourable conditions next year, and meanwhile it is hoped that improvements will be made by which, with suitable arrangement of sieves and screens, the machine will separate wheat from gram and oilseeds. There is not, however, in my opinion the remotest chance of these machines coming into general use by ryots individually or collectively, though it is possible that large landholders here and there may purchase a few of them if a portable machine, carefully adapted to the conditions of Indian agriculture, can be supplied. Indeed one such landholder, who grows wheat largely in Bhagulpore, has expressed a strong desire to obtain a machine of this kind, and has explained that the loss he suffered this year, by being unable to have his wheat threshed in due time before it became damaged by a fall of rain, would more than pay for one of Messrs. Marshall and Company's machines.

No likelihood of general use of steam threshers.

14. "Connected with the question of the condition in which wheat reaches this market is," the Chamber went on to remark:—

Storage accommodation on railways defective.

"The very important question of the accommodation for it provided at up-country stations, especially on railways other than the East Indian line. It is hopeless to expect to improve the hold of Indian wheat on European market so long as there is nothing at certain times to prevent its reaching Calcutta weather-damaged. The absence of proper and sufficient accommodation at railway stations for receiving wheat has mulcted shippers in very heavy allowances, and is one of the main causes of bringing Indian wheat into disfavour with home consumers. The wheat season extends from April to October, and as soon as the rains set in the lack of proper accommodation results in a portion of nearly every parcel arriving damaged. Not only is the shelter insufficient, but in many cases the railway platforms are not raised to the point of safety from casual inundations. The railways endeavour to protect themselves by granting to a consignor clear railway receipts against his indemnity note. This practice, when regard is had to the short time allowed at Howrah for the examination of wheat by consignees, and also to the limited facilities they enjoy for such an examination, results in large quantities of damaged goods passing undetected, to the manifest and serious loss of shippers.

"The Committee of the Chamber of Commerce would, in the best interest of the wheat trade, bring this question of the accommodation at up-country stations very strongly to the attention of His Honour the Lieutenant-Governor."

15. The complaints to which reference is here made relate, I believe, principally to up-country stations beyond the territories subject to the Lieutenant-Governor of Bengal; but it would no doubt be very desirable to provide further accommodation at Howrah, and to allow greater facilities there for examination of wheat by consignees. The authorities of the East Indian Railway are fully alive to the importance of this question, and are, it has been ascertained, in correspondence with the Government of India regarding it.

Superiority of Buxar wheat.

16. In my report, dated 7th July 1876, attention was called to the superiority of Buxar wheat to that locally grown in Bhagulpore.

Buxar seed was accordingly tried in many districts, and samples of the grain thus produced were sent to the Chamber of Commerce, together with samples of local grain, and their values were appraised. The results* are not everywhere as satisfactory as might have been expected, but the quality of the Buxar grain is, it will be seen, almost everywhere superior to that locally produced. Further supplies of this seed are now being asked for. The best grain produced in Bengal and Behar is, it will be observed, that sent by the Manager of the Deo Raj in Gya, who will be asked to furnish more of this grain for seed.

29.

From DIRECTOR, Department of Land Records and Agriculture, Bengal, to Messrs. RALLI BROTHERS, VALE, KING, and Co., and PETROCOCHINO and Co., dated 2nd April 1887.

Inquiry as to prices for clean wheat.

It has been proposed to introduce wheat steam-threshing machines, in Dumraon, by which clean wheat can be produced. The Manager of the Dumraon Raj is willing to try one of these machines and produce pure wheat, if he can obtain a higher price for it than he would receive for the *same* grain mixed with dirt. I beg to inquire whether you are prepared to give a higher price for perfectly clean wheat grain than for the same quality of grain with an admixture of 5 per cent. of dirt. I should be glad to discuss the subject with any person whom you may depute to my office to-day between 3 and 4.

30.

From MESSRS. RALLI BROTHERS, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.

Ralli Bros.' reply.

We are in receipt of your letter of date, and in reply beg to inform you that the Manager of the Dumraon Raj had a long interview with us two or three months ago, when we explained the matter fully to him.

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* See Table, p. 56.

We told him that the most practical way for him to dispose of this question is to send us large samples of wheat with various admixtures, when we would make him our offer for each quality.

In a general way, we say that the clean wheat could obtain a higher price than the dirtier one; but the price paid will also depend on the special outlet which may exist at the time for the clean wheat. If the Manager of the Dumraon Raj is ready to offer us to-day clean wheat, stating the admixture and quality, then, if the price asked for is not too high as compared with the price asked for 5 per cent. stuff, we might see with our home friends whether there is any chance of doing business in wheat thus cleaned down.

31.

MESSRS. VALE KING, AND CO., to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 2nd April 1887.

In reply to your favour of date, we shall be pleased to forward to London a sample of pure wheat with the object of being able later on to offer you a better price for such wheat than we can at present. Vale, King, and Co.'s reply.

We must either sell in London on standard sample of No. 2 club, &c., or, for a specially good quality, on a sample submitted by the seller.

Our experience goes to show that the home buyers prefer buying on the ordinary standards to paying an extra price for a special quality; but we shall willingly try and introduce the better quality you proposed into the London market.

We regret that Mr. Petrie cannot wait on you to-day; but if you will appoint a time next week, other than on Tuesday, Wednesday or Friday afternoon, he will be happy to discuss the subject with you.

[Mr. Petrie afterwards did discuss the subject, and informed me that he could not guarantee a higher price, and added that Government might do something towards getting merchants in England to give higher prices for clean grain by introducing a new brand of wheat cleaned to 2 per cent. Messrs. Petrocochino referred me to the Chamber of Commerce and gave no further reply—M.F.]

32.

MESSRS. RALLI BROTHERS, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 23rd May 1887.

We have received the two samples you mention in your letter dated 18th May, and have to report on them as follows:— Ralli Bros.' report on wheat samples.

1*st.*—*Wheat threshed by the ordinary native method.*—This sample contains too many red grains, *viz.*, 35 per cent., and 65 per cent. white whilst good Buxar quality should contain about 20 per cent. red and 80 per cent. white.

This sample would be worth to-day Rs. 2-13-6 per maund, whilst good quality wheat would be worth about Rs. 2-14-6.

The refraction of this sample is $5\frac{1}{8}$ per cent., so that if a seller delivers such wheat against a contract with 5 per cent. refraction, he would have to pay an allowance for the $\frac{1}{8}$ per cent. excess refraction.

2*nd.*—*Steam-threshed wheat.*—This wheat is spoiled by the machine, many grains being broken, and we would not ship such wheat, as it would pay an allowance at home.

The refraction is $1\frac{7}{8}$ per cent.; but if this wheat were delivered against a contract allowing 5 per cent. refraction, the seller would obtain no advantage from the lower refraction it contains.

If, however, the wheat were sold on a sample, and it did not contain the broken grains above referred to, it would obtain a higher price than the sample containing $5\frac{1}{8}$ per cent. refraction.

It is impossible to fix exactly the relatively higher value of the clean wheat until the requisite records have been received from the consuming countries; and all we can say

at present is that, in a general way, the wheat, if not broken, would fetch a better price if sold on a guaranteed sample, or if the seller guaranteed by contract the lower refraction which the sample contains.

We do not know what opinion you will receive from the Association as we are not members. The above is our opinion.

33.

WHEAT AND SEED TRADE ASSOCIATION, Calcutta, to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 2nd June 1887.

Wheat and Seed Association's report on samples.

I am desired by the Committee of the Wheat and Seed Trade Association to acknowledge receipt of your letter of the 18th ultimo, to Mr. Clarke, and also receipt of the two bags of wheat produced at Dumraon in the Buxar sub-division, one steam-threshed and the other the same grain threshed by the ordinary native process.

In your letter you ask the Committee to appraise both and to let you know their relative values with their opinion on them generally.

In reply, I beg to say that the Committee have carefully examined the wheat in each of the two bags, and I am directed to send you the following report which embraces their opinion upon each of the two descriptions.

The bullock-threshed sample refracts 9 per cent., of which $8\frac{3}{4}$ per cent. is mud and other grain, and $\frac{1}{4}$ per cent. damaged and withered grains. Wheat with such an admixture is practically unmerchantable for export, and it is difficult to put a value on it as it is.

The sample of steam-threshed wheat refracts $3\frac{3}{4}$ per cent. according to the usual system of refraction, but of this $1\frac{5}{16}$ per cent. only consists of damaged grains and substances other than wheat, and $2\frac{7}{16}$ consists of grains crushed and broken by the machinery. This broken and crushed wheat is very unsightly in the sample, and would probably detract considerably from its value in the home market.

The colour is considerably inferior to good Buxar No. 1 club, being very yellow, and the sample is much mixed with red grains. This wheat would not pass in this market as average Buxar No. 1 club, and it is difficult to place an exact value on it; but, if sold on sample, it would probably fetch about one anna per maund less than average Buxar, or say in the present market Rs. 2–14–6 per maund. It is doubtful whether with its present admixture of crushed and broken grains this wheat would sell for a better price than the same quality with an ordinary admixture of five to six per cent.

With reference to your inquiry as to what difference in price would a hundred maunds of the steam-threshed grain fetch over the sample threshed in the ordinary way, I am directed to give you the following figures:—

	Rs.	a.	
100 maunds steam-threshed, at Rs. 2–14–6 -	290	10	
100 maunds ordinary threshed, at Rs. 2–14–6 -	—		
Less 4 per cent, excess refraction - -	279	0	
Difference - -	11	10	per 100 maunds.

I return the bag of wheat as requested, and I also send you, by desire of the Committee, a sample of a good delivery of Buxar No. 1 club, and a sample of the Committee's standard of May shipments of No. 2 club, Cawnpore-Lucknow quality, which may be of use for purposes of comparison.

34.

MESSRS. RALLI BROTHERS, to DIRECTORS, Department of Land Records and Agriculture, Bengal, dated 21st July 1887.

Ralli Bros.' experiments.

In reply to your last inquiry, what we have done is this:—

We wished to see in a practical way the comparative value on this side and at home of cleaner wheat as compared to the average run of the dirtier stuff which is procurable.

As this cannot be so satisfactorily ascertained by bulky samples only, we instructed our agency at Buxar to purchase a parcel of wheat and despatch to us, one portion of it in its natural uncleaned state and the other portion after having reduced the refraction contained in it (*viz.*, everything which is not wheat) as much as they could.

Our agency has done this, and they sent us down two parcels, thus handled, of some 100 bags each.

At the same time we have received the respective invoices, and the result is the following :—

The wheat bought contained about 6 per cent. refraction.

Comparative cost of cleaned an uncleaned wheat to exporters.

The parcel despatched in its original state, *viz.*, with 6 per cent. refraction, costs us, arrived at Howrah, Rs. 2–14–4 per bazar maund.

The parcel despatched after having been cleaned down to about 3 per cent. costs us, arrived at Howrah, Rs. 2–15–11 per bazar maund.

The extra cost therefore of the cleaner wheat came to 1 anna 7 pie per maund, which is equal to about $10\frac{3}{4}d.$ per quarter at home.

The expense of cleaning, taken by itself, is not a very heavy one, because it comes to about 3 pie a maund; but the final expense is so very much enhanced on account of the incidental expenses in the shape of importing into godown, storing, repacking, exporting, &c., &c., which are incurred, and which, but for the cleaning, would be saved, and of course also by the loss of weight incurred, viz., 3 per cent., whilst the expenses saved by not shipping this 3 per cent. are small only.

The original parcel was cleaned by hand labour and was cleaned twice; but in spite of this the refraction was not reduced to less than 3 to $3\frac{1}{4}$ per cent. on account of the food-grains which it contained, chiefly kessary and mussoory, which cannot be got rid of because they are of about the same size and weight as the wheat.

If we were to apply extensively the system of cleaning wheat, we might be able to improve matters somewhat, but not to any really appreciable extent.

The above parcels we are shipping to Marseilles, and when they arrive there they will be sold on their merits, and we shall know then what the actual result of the experiment will be; but as the extra cost of the cleaned wheat which I give you above is equal to quite half a franc per 100 kilos, we do not expect to obtain in Marseilles a higher price such as to compensate for the higher cost, and besides this, though the experiment made is a very practical one, it would require to be repeated so as to form a definite conclusion. Besides we cannot depend on having always a regular outlet for this wheat.

As I know that you take much interest in this question, I thought that you would like me to explain to you what we have done in a detailed way.

As regards the general question of Indian wheat on this side of India, nothing fresh has been done lately, and wheat continues to be shipped in the same way as previously.

Ralli Bros.' opinion how improvement may be effected.

As you know, my opinion on this subject is that an improvement in the condition, or rather in the amount, of impurities which are contained in the wheat shipped will result in accordance with the requirements of the consuming countries, *viz.*, if they wish to receive cleaner wheat and pay for it accordingly, cleaner wheat will be exported, because exporters will always adapt themselves to the requirements of the consumers.

At the same time, however, this result will also be obtained by the endeavours which the Agricultural Department will continue in the way of impressing on cultivators the necessity of supplying wheat as free of the admixture of other grains, &c. as they possibly can, because, as you will see also from what I write above of the experiment we made at Buxar, it is quite clear that whilst dust and such like matters can be extracted from the wheat, the edible grains, &c. which the wheat contains cannot be equally so, and these grains constitute a great proportion of the admixture.

In conclusion, my opinion is that the supplying of cleaner wheat cannot be forced upon either shippers or cultivators; but that whilst the former will conform themselves to the requirements of trade, the tendency of which is to receive purer wheat, the latter should continue to be urged by Government to bring down their wheat in a purer condition by restricting, as much as possible, the present system of sowing mixed crops and the like.

I shall be obliged by your informing me whether the information I give you is all that you require at present.

LIBRARY OF THE BOMBAY

35.

Appraisement of Wheat Samples from various Districts by the Chamber of Commerce, Bengal.

Locality.	Wheat growing to any extent or not.	Variety of Wheat.	Value as appraised by the Chamber of Commerce.	Remarks.
I.—Bhagulpore:—			Rs. a. p.	
Experimental farm	Wheat growing	Buxar	2 14 6	
		Local	2 14 0	
Rungalal's farm	Ditto	Buxar	2 15 6	
		Local	2 14 6	
Surjanarayan Singh's farm.	Ditto	Buxar	2 15 6	
		Local	2 15 0	
II.—Monghyr:—				
Durgadas' field	Wheat growing	Buxar	2 14 6 to 2 14 9	
		Local	2 11 6	
Nawal Singh's field	Ditto	Buxar	2 15 6	
		Local	Uncertain.	
Sham Sing's	Ditto	Buxar	2 14 6	
		Local	2 11 0	
III.—Pubna	No wheat growing	Buxar	- - -	Lost its character as Buxar wheat.
		Local	2 10 0	
IV.—Dinagepore	Ditto	Buxar	2 11 6	
		Local	- - -	Ditto Ditto.
V.—Bogra	Ditto	Buxar	2 15 0 to 2 4 9	
		Local	2 9 6	
VI.—Tipperah	Ditto	Do.	Uncertain	Unlike anything shipped from Calcutta; soft, but greasy in appearance.
VII.—Gya	Wheat growing	Local daudi	3 0 0	A fine wheat, superior to No. 1 club.
		Do. red	2 12 0	Best soft red,
VIII.—Cawnpore	Buxar	- -	Sample not received.	Came, it is reported, to maturity at least 10 days earlier than Mozuffernagur variety, and was remarkably free from rust. The outturn was also good.

36.

Government of Bengal to Director, Department of Land Records and Agriculture, Bengal, No. 3421–608, dated 16th November 1887.

Views of the Bengal Government on the question.

In acknowledging receipt of your letter No. 1265, dated 18th August last, and enclosures, on the subject of the refraction of wheat, I am directed to express the Lieutenant-Governor's satisfaction at the efforts made by you for the improvement of the quality of the grain exported from Bengal by the supply of the best seed, by aiding in experiments for introducing cleaning machinery, and by drawing attention to a trade custom which, even if adapted to immediate circumstances, must in the long run act as a bar to progress. The subject is one of the greatest importance from a commercial and agricultural point of view, as a slight improvement in the quality of the wheat exported from Bengal would probably lead to considerable increase in the price offered, and enable this province to compete on more equal terms with European and American countries. At the present moment there seems to be no opportunity for offering advice to the cultivators as to the admixture of foreign substances with wheat, and, until the conditions of trade alter, Sir Steuart Bayley agrees with you in thinking that the Government would not be justified in urging the ryots to accept the present loss involved in growing wheat without admixture of other crops. Cultivators are probably aware of the conditions of the trade which affect them immediately, and in particular know what price can be expected in the local market for grain of a particular quality, or in a particular state. But should the experiment tried by Messrs. Ralli Brothers in exporting wheat cleaned down to 3 per cent. refraction prove successful, and lead to a demand at paying rates for grain of that quality, or should a similar alteration in the trade be produced by other causes, it may be advisable to make the facts known to producers. It is doubtless true that an effective demand for grain of an improved quality must in the first instance be created, but should such a demand arise, its continuance will probably depend on the quality of wheat of the desired description which can be brought for sale.

NORTH-WESTERN PROVINCES AND OUDH.

37.

GOVERNMENT, NORTH-WESTERN PROVINCES AND OUDH, to GOVERNMENT OF INDIA, No. 1172—I. 85, dated 6th July 1885.

I am directed to acknowledge the receipt of your letter, No. 67A.—42–4, dated the 16th May 1885, forwarding copy of a resolution recorded by the Punjab Government on the subject of the wheat trade of that province.

North-Western Province Government's views.

2. With reference to paragraph 11 of the resolution, I am directed to say that the general question of warehousing grain, and also Messrs. Reinhold's special representation, have already been considered by this Government, and his Honour the Lieutenant-Governor and Chief Commissioner sees no reason to dissent from the views already expressed in paragraph 33 of Mr. Benett's letter, No. 48T., dated 25th July 1884, a copy of which is appended to your letter under reply. The proposal of the Punjab Government to erect store-godowns at railway stations where octroi would not be levied, in the hope that traders would readily use them for storage of their grain, does not seem called for by the conditions of trade which exist in these Provinces, nor so far has the want of such store-godowns been generally expressed or felt by traders of the North-Western Provinces and Oudh. For purely storage purposes it is believed that such warehouses are not required except in times of very exceptional pressure, and on these rare occasions such accommodation as could reasonably be provided would prove insufficient. For ordinary traffic the railway companies have made and are making sufficient provision. Traders would be deterred from using warehouses scattered along the lines of rail, by the difficulty and expense of maintaining proper supervision and control over their stocks at a distance from their places of business, and in some degree also by the loss of secrecy of their trade involved in the use of public warehouses. It has yet to be proved that the grain trade is diverted or indeed influenced by the presence of an octroi tax. The general experience on the subject, moreover, is believed to be adverse to the success in India of the warehousing plan, which has more than once been tried.

Warehouses not required.

38.

NOTE by the DIRECTOR, Department of Land Records and Agriculture, North-Western Provinces and Oudh, dated 14th January 1887.

Report by Director, Agricultural Department.

The following remarks are offered in compliance with a reference made by the Government of India on the 24th December 1885. Copies of certain correspondence between the Government of Bengal and the Calcutta Chamber of Commerce were sent to me. Special attention was directed to the views expressed by the Chamber of Commerce in paras. 3, 4, and 5 (marginally noted)* of their letter, dated 13th November 1885, to the Government of Bengal. I was asked to obtain the opinions of the leading merchants in Agra and Cawnpore and forward them with such remarks as I might have to offer.

2. I consulted Messrs. Reinhold, of Agra and Cawnpore, Mr. Wishart (representing Messrs. Begg and Sutherland, Cawnpore), and also a number of the principal traders in Meerut and Muzaffarnagar, both of which places are large wheat-exporting centres.

* "3. It is the opinion of the Chamber that Government officers should be instructed to continue to impress upon the cultivators and middlemen the importance of keeping their wheat as clean as possible, and of sowing, as far as practicable, different descriptions of produce in separate fields. It might also be explained to them that No. 1 club wheat or the Delhi and Buxar varieties of soft white grain, and No. 2 club, consisting of Cawnpore-Lucknow grain, command a higher price than other descriptions, and efforts might be made to introduce these varieties into districts where only the inferior qualities of grain, difficult of sale for export, have hitherto been cultivated.

"4. The mixing of dirt or inferior grains by mofussil dealers is a matter against which the Chamber is unable to suggest any remedy; but no doubt, when these dealers realise the loss sustained by the reduction of weight paid for, due to excess refraction, they will see their advantage in sending to the market wheat fit for immediate export, thus saving additional charges at the port of shipment.

"5. It is the opinion of the Chamber that much good would possibly be done in the direction of the development of the wheat trade by improving communications between the districts of growth and the different railway-stations by means of cart-road feeders. It is considered that central cleaning depôts are neither necessary, advisable, nor practicable, as the expense that would be incurred in using them for cleaning an article of such low primary value as wheat would increase the cost out of proportion to the improved price which might be obtainable for the cleaned grain in the home markets.

Messrs. Reinhold had already, in 1883, laid before the Local Government a scheme for cleaning and classifying wheat at Cawnpore and at such other central marts as might be selected. On being asked for an opinion on the points raised by the Calcutta Chamber of Commerce, they referred to their project of 1883 as embodying their views. Mr. Wishart favoured me, in April last, with an expression of opinion on the points raised, and I cannot do better than quote his own words. Mr. Wishart writes as follows:—

Mr. Wishart's opinion.

"As regards the first point, whether clean wheat is to go to England or not, this depends on the London and Liverpool Wheat Associations and not on us in India. Cleaned wheat has been shipped time and again, and the experiment has always resulted in a loss, the reason being that the standards are fixed by the average quality of the first few shipments of the season, and if wheat free from small and damaged grain and containing (say) 2 per cent. of impurities only as against the customary 5 per cent. is shipped, it is a special article and can only be sold as such. Again, standard wheat may change hands half a dozen times before it reaches England, while a lot of special quality could only be sold on samples drawn after arrival, thus making the shipper take all the risk of fluctuation both in the wheat market and the rate of exchange. If the London merchants will demand wheat containing only 2 per cent. refraction, it can be supplied easily, as there is no grain that is easier to clean. * * * * There are too many practical objections to the successful working of cleaning depôts to make it worth while to discuss the project seriously; the costs of the enormous area of buildings necessary, the difficulty of cleaning innumerable small lots separately, and the disposal of 50 or 60 different qualities. If anything of the sort is attempted, I think the best plan to follow would be the Chicago grain elevator system. They class wheat in three or four different standards only. When wheat is tendered to them, it is graded according to its quality and refraction and weighed off, and then run up into the room containing wheat of that standard, and a warrant is given for the quantity received. If damaged grain or grain containing anything like 5 per cent. refraction is tendered, it would simply be refused as 'below class.' This has had the effect in America of making both farmers and middlemen clean and store wheat properly, and it would have the same effect here.

"I do not think much good could be done by trying to induce cultivators to change the class of wheat which they sow, as the description grown in each district has in nine cases out of ten shown itself suitable for that district, and cultivators do not like being experimented upon. Could anything be done, however, to induce them to use seed that did not contain the usual percentage of barley, it would be a good thing, as it can only been cleaned out by the expensive machinery which the English mills have for this work. The Calcutta shippers have no one to thank but themselves for the fact that wheat is mixed with dirt and inferior grain by mofussil dealers. For reasons of their own they have established 5 per cent. as the standard of refraction, and if a dealer was to send down wheat containing 2 per cent., they would not make him a pice of allowance for its extra purity. Again, it would not pay them if the wheat was brought down absolutely free from foreign matter, as many of them make their profit on the refraction—that is to say, consignments that they class, in taking delivery from the up-country dealers, as containing 6 and 7 per cent. (refraction) and pay for accordingly, will pass in London and Liverpool very often as below 5 per cent. Paragraph 5 of the Chamber's letter seems to me to be most unreasonable. It is admitted that the grain has to be cleaned in the home market before it can be milled, and it is unreasonable to maintain that it is cheaper to ship it home dirty, paying extra railway and steamer freight, insurance and labour at English rates, than to dispatch it clean from up-country, provided a system can be introduced which will make it to the interest of either the cultivators or the middlemen to clean it."

On a subsequent reference made to him in June, Mr. Wishart writes:—

"Native and European dealers up-country maintain (in a falling market particularly) that, however clean the grain may be, an allowance is always claimed for refraction. In the North-Western Provinces and Oudh, the Calcutta shipper is supposed to instruct his staff to get some allowance from the up-country dealers in both weight and refraction, and the dealers, to save themselves, are said to keep men down there (in Calcutta) to bribe the shippers' employés to pass the consignment on favourable terms, the consequence being that some are let off easily, while others are cut heavily. If there is any truth in these statements, it is quite easy to understand that the shipper in the long run does not now gain much by refraction, while his action has had the effect of greatly demoralising and lowering the tone of the trade. My statement that 'many

'of them make their profit by refraction' was based on an admission to that effect made to me some two or three years ago by a large Calcutta shipper, and I was under the impression that the practice was still in force * * *.

"The general opinion up-country appears to be that were there an independent or reliable body in Calcutta, to whom questions of quality and refraction could be referred, business would be greatly facilitated. * * All the men I have spoken to agree that a great deal of bribery goes on at Howrah in connexion with the giving and taking delivery of oilseeds and wheat, and this has had a very demoralising effect on the trade."

Statement by native traders.

3. The native traders whom I consulted in Meerut and Muzaffarnagar were chiefly commission agents, with no real stake in the wheat trade. They had no suggestions to offer. The only instructive remark which nearly all of them made was that they were afraid to venture to trade in wheat on their own account, because they felt themselves completely at the mercy of the Bombay and Calcutta dealers; that no matter how clean and pure the wheat they sent, they were certain to be mulcted heavily for refraction at the ports, and that, therefore, they preferred to act merely as middlemen between the producer and the exporter, making a small commission, and safe from loss.

I am bound to say that all the evidence which I have been able to obtain in the North-Western Provinces and Oudh goes to confirm the views expressed by Mr. Wishart.

4. I shall now state my own opinions on the points raised by the Calcutta Chamber of Commerce and on one or two cognate matters in regard to wheat production and export, and shall make, with all diffidence, some suggestions which have occurred to me as, perhaps, worthy of some consideration. My remarks must be regarded as referring, primarily, to the North-Western Provinces and Oudh.

Director's opinion.

First, then, with regard to the impurity of the wheat, the consequent high rate of refraction, and the proposal to establish local cleaning depôts for purifying the wheat, with a view to reducing the rate of refraction and enabling shippers to send a pure, clean article to the European market.

Practical working of refraction system.

There is no doubt whatever that, although considerable improvement has of late taken place, the wheat sent from these provinces to Calcutta and Bombay is still very far from pure. It generally contains a mixture of barley, peas, straw and chaff, and dirt varying from 3 to 6 per cent. It goes down by rail in bags. It is sorted at Howrah; if it shows impurity greater than 5 per cent., the excess (up to 7 per cent.) is deducted from the seller's invoice; if the impurities are over 7 per cent. the buyer has the option of refusing the consignment. For example: a bargain is struck between a Calcutta merchant and a Cawnpore trader for delivery of 500 maunds of wheat at Rs. 2-8-0 per maund. This price, it is understood by both parties, is really for 475 maunds of pure wheat and 25 maunds of impurities. The Cawnpore trader sends down 500 maunds containing impurities to the extent of (say) only 2 per cent., *i.e.*, 490 maunds of pure wheat and 10 maunds of impurities. The Calcutta merchant therefore gets 15 maunds of pure wheat for nothing and thereby makes, what may be called, an unearned profit of nearly Rs. 40, or over 3 per cent. I do not say this is a common occurrence; but it has happened so, and it will, from time to time, happen again under the existing arrangement. On the other hand, it cannot be denied that the Calcutta shipper has sometimes to pay, in London, allowances for excessive admixture which he cannot recover from the country dealer.

Evil effect on up-country traders.

5. Now this is an evil, but it is an evil that may, perhaps, be said to be inseparable from the Indian trade as at present carried on. Prices are struck on the basis of a 5 per cent. refraction, and this fact is known to all who engage in the business. An up-country trader knows that he must either adulterate the wheat which he sends to Calcutta up to the 5 per cent. limit, or if he sends a purer article, suffer a loss in proportion to its purity, which loss may be a gain to the Calcutta shipper. The natural consequence is that the country trader in probably nine cases out of ten does adulterate the grain. But this is not all. It is a regrettable fact that, as stated by Mr. Wishart and confirmed by undoubted testimony, agents of the Calcutta shippers do, in their negotiations with country dealers, particularly when the market is falling, often strive successfully to obtain unfair allowances both in weight and in refractions; and that the country dealers, on the other hand, frequently protect themselves from excessive loss by bribing the underlings at Howrah to pass their consignments on

more favourable terms than they are entitled to. It is these tricks of the business which are most damaging, for they give rise to uncertainty and insecurity which cannot fail seriously to obstruct the free course of the trade. In June 1885 the Calcutta Wheat and Seeds Association passed a resolution that all wheat purchased during the succeeding month of July should be on the basis of 5 per cent. refraction instead of 6 per cent., which is the customary rate for consignments coming after the 30th June in each year. The country dealers at once combined to defeat this movement on the part of the Association and to restore the 6 per cent. rate; they would not sell a bag of wheat at the 5 per cent. rate. The shippers held out for a time but eventually had to yield. This case has, I believe, been cited by interested parties to show that it is not the Calcutta merchants, but the country dealers who prevent pure grain coming to the market. Now I venture, subject to correction, to suggest that the reason why the native dealers refused to accept the 5 per cent. rate of refraction may have been, not because they were unable or unwilling to supply wheat of that degree of purity, but because they felt that any such reduction would still further increase the insecurity and risk of their business; for, as they doubtless reasoned, the lower the rate of refraction the more easy it is to assert and the more difficult to disprove excessive impurity.

Reason why refraction cannot be abolished.

6. In the present state of Indian agriculture the refraction difficulty cannot be altogether removed. The mass of Indian cultivators will for many years to come grow mustard seed or barley in their wheat fields, and the grains must get mixed to a greater or less extent at harvest time. Then the grain is threshed out by cattle on the bare ground, when it must get mixed with earthy matter. The custom of sowing mixed seed is, I hope and believe, not so universal as it used to be, and every effort is being made to introduce a pure and high quality of seed, but still the custom largely prevails. Under these circumstances refraction will always have to be considered in the course of the wheat and seed trade. The *real* evil to be got rid of is the insecurity felt by traders and the consequent risk to the trade from the abuse of refraction at the ports. There is, so far as I can see, only one remedy, and that is the establishment at the ports of an independent authority to determine all questions of refraction and classification. The present system of arbitration by members of the Calcutta Wheat and Seeds Association is a laudable effort to solve the difficulty. But apparently the up-country traders want something more independent than this. A committee of mercantile men, aided by an expert appointed by Government, would probably be a sufficient guarantee to all parties and would restore confidence.

Abuse of the system the real evil.

Obstacles against cleaning depôts.

7. The question of local depôts for cleaning the wheat is a difficult one. If the tendency of the trade in these provinces was to concentrate at a few large central marts on the line of rail I would be disposed to recommend establishment of cleaning depôts at these marts, because by such an arrangement the local exporters would be enabled to clean their wheat down to a certain refraction standard and thus satisfy themselves that their consignments were strictly up to the quality required for export. But the tendency of the trade is exactly the other way. Instead of concentrating at large marts it is daily becoming more and more scattered. The concession by the railway companies of special freight rates for minimum consignments of 10 tons has encouraged export by driblets, and now during the season, local export goes on from almost every railway station. It would scarcely be possible to establish cleaning depôts at all stations. The expense, both in prime cost, maintenance, and supervision (which is indispensable), would probably be too great. Therefore in lieu of small local cleaning depôts, I would recommend establishment at the ports of large cleaning and storing depôts,

Comparison of Indian and American freights and prices.

8. This brings me to the most important of the suggestions which I venture to offer in this note.

America is India's most dangerous rival in the wheat trade. She has limitless resources, a fertile soil, a magnificent railway service, the cheapest freights in the world both by land and sea, and she compensates herself for the costliness of manual labour by the extensive use of machinery. India, too, has enormous resources, a productive soil, and she has, what her rival has not, cheap labour. But the natural expansion of her trade is hampered by her comparatively limited means of communication by road and rail and by high freights of land carriage. The following figures will illustrate the advantage which America has over India in the competition for the wheat trade with the United Kingdom :—

One quarter (496 lbs.) of wheat is carried from Chicago to New York at the rate of 6·25*d.* per 100 miles.

One quarter (493 lbs.) of wheat is carried from Cawnpore to Calcutta at the rate of 7·80*d.* per 100 miles.

The Indian rate would thus appear to be about 25 per cent. higher than the American rate.

The American wheat which is carried from Chicago to New York is pure and clean and in exportable condition. The Indian wheat which is carried from Cawnpore to Calcutta is weighted with 5 per cent. or more of pure ballast.

The American wheat is carried in bulk, loose in the cars. The Indian wheat is carried in double bags. The American wheat receives the least handling possible.

The Indian wheat is handled in a multitude of ways both at starting and at its destination:

Thus then, as the above figures show, India is burdened in her struggle with America (1) with a primary railway freight about 25 per cent. higher, (2) with an extra railway freight on 5 per cent. ballast, (3) with a further extra railway freight on bags, (4) with excessive handling, and (5) finally she comes into the English market with an article inferior in appearance, although, on the whole, not much inferior in quality to that of her rival. Indian disadvantages; high freight; successive handling; impurity.

The cost of raising one quarter (496 lbs.) of wheat in America is about 14*s.* The cost of raising the same quantity in the North-Western Provinces and Oudh is (at the present rate of exchange) about 11*s.* 9*d.*

It is not, therefore, in the prime cost of wheat that India is at a disadvantage. For the same outlay she can raise nearly 20 per cent. more grain than America and of not much inferior quality; and, moreover, she has resources, in area and labour, to raise sufficient wheat to supply the entire demand of the British market. America, by her protective policy, is inflicting severe losses on the British manufacturing industry. India possesses within herself the means of compelling America to withdraw her hostile tariffs, and open her market to the products of British industry.

9. To enable India to successfully meet American competition in the wheat trade, effort should be made— What is needed.

(i.) to send the best Indian wheat in the best condition to the London market;

(ii.) to reduce to a minimum all charges between the producer in India and the consumer in England.

In other words, the wheat exported should be of the best quality, pure and clean, and freight and handling charges should be reduced to the lowest figure possible. As regards the quality of the grain, I shall have something to say afterwards. Meanwhile, what we have to do is to see that the grain sent to England is in a condition which will enable it to take an independent place in the home market, and that its cost landed in London is such as to enable it to defy foreign competition.

10. The first step which appears to me to be necessary is to change the present system of carriage in bags to carriage in bulk—*i.e.*, loose in the waggons. Carriage in bulk

By carriage in bulk the following charges will be saved per quarter of 496 lbs. between Cawnpore and Calcutta:—

(*a.*)	Cost of bags - - - - -	12 annas.
(*b.*)	Bagging, marking, and sewing - - -	1·5 „
(*c.*)	Freight on bags - - - - -	2·5 „

or a total saving of Rs. 1, equivalent at present exchange to 16·5*d.*

If the grain were carried by sea in bulk also, the further saving in freight of bags would be ·75*d.*, raising the total saving in freight to London to 17·25*d.* or 1*s.* 5¼*d.* The present cost of landing one quarter of wheat in England from Cawnpore (including price in India) is 31*s.* 10·93*d.* The reduced cost would be 30*s.* 5·68*d.* If by an arrangement which I shall shortly describe the grain is cleaned down to 2 per cent. refraction at the port, a further saving on sea freight of 2·5*d.* will be made, raising the total saving in freight to 19·75*d.* or 1*s.* 7¾*d.*, and reducing the cost of one quarter of wheat landed in London to 30*s.* 3·18*d.*

The quarter of wheat from Cawnpore (No. 2 club) fetches in London 32*s.* to 33*s.* 6*d.*

The competing American wheat costs 33*s.* 6*d.* landed in London, but fetches 36*s.* to 37*s.* per quarter.

11. The arrangements necessary on the Indian railway lines to enable wheat to be carried in bulk would neither be difficult nor costly. I am indebted to Mr. J. R.

Muirhead, Traffic Inspector on the Oudh and Rohilkhand Railway at Benares, for the following suggestions in regard to these arrangements and their probable cost.

The railway companies have generally abundant spare ground at their stations. Let them set aside a portion of the ground, so that the grain can be brought direct to the station, instead of to the local market, and there taken over by the agents. Let shelter sheds be run up for receiving the grain in bulk, and let each agent have a compartment or bin for keeping his consignments separate.

Let the grain be loaded up into the waggons in bulk by baskets.

At most stations covered sheds already exist, so that the only expenditure would be for the bins or separate compartments. Each bin would cost, probably, not more than Rs. 100.

Alteration in waggon.

Certain adaptations of the existing waggons for carrying the grain loose would be necessary. Each waggon would require to have (say) six openings in the floor with sliding shutters, manipulated at the ends of the waggon, to open and close the holes; such an alteration would not interfere with the adaptability of the waggon for carriage of any ordinary goods when not required for grain traffic. A load-line would require to be painted inside each waggon, indicating the height to which the grain could be heaped.

The alteration could be made for Rs. 20, and the painting for Rs. 2 per waggon, or Rs. 22 in all. The waggons will need to be supplied with 12 plate springs, in order to enable them to carry $12\frac{1}{2}$ tons in bulk instead of, as now, 10 tons in bags. But as the railway will gain by saving in haulage about Rs. 150 on every 50 ton lot from Cawnpore to Calcutta, this item should not be taken into consideration.

Delivery through cleaning shoots.

The waggons, on arrival at the port of shipment, should be run on elevated lines and the grain should be shovelled out of the waggons, through the openings in the floor, into shoots which should be constructed with alternate screens or sieves on the inside. The grain, while passing over these screens or sieves, will cleanse itself of dirt and small seeds, leaving the clean wheat to pass out at the base, either into bins for storage or into cargo-boats for immediate conveyance to the ship or steamer.

I am not in a position to say what the cost of the elevated lines would be, but the shoots with alternate screens would probably not cost over Rs. 500 each

The saving in freight and handling effected by an arrangement of this kind would amount, as I have already shown, to Rs. 1 per quarter, or 2 annas 8 pie per maund. The Benares railway bridge will cost, I am told, over 70 lakhs of rupees, and it will, when open to traffic, effect a saving of about 2 annas 10 pie per quarter. If this be so, surely the expenditure which I have described would be well worth incurring, seeing it would effect a saving in carriage of Rs. 1 per quarter.

Advantages from carriage in bulk.

12. The important results which would accrue from carriage in bulk in the way described are :—

(1) a large saving in freight and handling;
(2) greater carrying capacity in the railways;
(3) partial cleansing of the grain in the very course of its loading and carriage in bulk;
(4) complete cleansing of the grain at the terminal station through the shoots;
(5) reduction to a uniform *minimum* of the refraction;
(6) consequent highly improved condition of the grain sent to the London market.

The full saving of 1*s.* $7\frac{3}{4}$*d.* per quarter landed in England would, of course, greatly depend on the shipping companies consenting to carry the wheat in bulk. But if the trade took a decided turn in that way, and the advantages of the new departure became apparent, the shipping companies would not be slow to make arrangements to suit the advancing trade.

Reduction in refraction per-centage.

13. It is, however, of primary importance that the London market should definitely fix the degree of purity, *i.e.*, the refraction of Indian export wheat. London is the buyer, but she is in reality in ignorance of the capabilities of this country. The London merchants imagine that nothing under a 5 per cent. refraction is possible, and they determine the standards from the first few shipments of the season. What is required is that the London trade should send out a competent representative to this country, who will, on behalf of the British trade, authoritatively fix the degree of refraction of the Indian wheat. It is idle to expect the Calcutta merchants to do this; and the up-country dealers have not sufficient confidence to risk a standard of refraction which could be easily and safely abused.

If the London trade were aware that a 2 per cent. refraction was not only possible, but under a system of carriage in bulk and self-cleaning at the port, cheap and easy, it is not to be doubted that they would fix the standard at 2 per cent., and that Indian wheat would rise in the European market. A very direct stimulus to higher-class cultivation in this country would be given; and *the one thing needful* would be supplied, *viz.*, the motive of self-interest in up-country traders would be brought into active operation, and would re-act on the Indian cultivator in a way that no Department of Agriculture or any other power on earth can act. Let the desire and certainty of gain from trading in a high quality of wheat once firmly get possession of the Indian village trader, and it will not be long before the Indian cultivator takes to sowing pure seed, cultivating the best varieties, keeping his wheat separate from other grains, adopting improved methods and economies in his cultivation and developing into what no unaided Department of Agriculture can ever make him—a keen, enterprising, intelligent, clever, thrifty farmer.

Probable effect on cultivators.

14. Still Departments of Agriculture can do something if they only set about their business in the right way. And here I come to the points noted in paragraph 3 and the first part of paragraph 5 of the Calcutta Chamber's letter. As to preaching to cultivators on the necessity of sowing their wheat separately and inculcating the duty of not mixing, all I have to say is that the best sermon that can be preached is the hint to them by the village trader that, unless their wheat is very nearly quite pure, he will not buy it as wheat at all, but as a mixed grain at a low rate like gram and barley. If (as it would be) this hint were followed up by action at harvest, and the cultivators felt the loss they had sustained by not heeding the trader's warning, they would soon mend their ways and take to those better habits which the Chamber desire them to be lectured about by officers of Government. I venture to assert that if 2 per cent. refraction were authoritatively fixed by the London trade, and if the Calcutta trade (as they would be obliged to) demanded accordingly, pure wheat would be got, and this would be the best sermon to the Indian cultivator. The two essential points are :—

(i.) that London should fix the standard, and that the whole Indian trade should be aware of its having been so authoritatively fixed;
(ii.) that every question of refraction and classification should be disposed of by an independent authority at the port.

In this way alone can confidence be restored to the country traders, and unless there is confidence, it is vain to expect improvement. Once country dealers know that if they send wheat of 2 per cent. refraction as required in London, they will get the full price of this standard wheat and not be mulcted by intriguing agents from whose decisions about impurity they have no appeal, and in whose fairness they have no trust, they will see to it that the wheat sent is of the best and cleanest.

What the Agricultural Departments can do.

15. But, as I have said, Departments of Agriculture can do something. They can arrange for supply of the best seed at easy rates to cultivators all over the country, and they can encourage cultivators who sow it carefully by offering prizes for good samples exhibited at agricultural shows. It is in this way, perhaps, that the Department of Agriculture can best act on the mass of cultivators, and in so far as lay in my power with the means at my disposal I have acted in this way in the United Provinces. For the last two years quantities of from 800 to 1,000 maunds of specially selected and cleaned soft white seed have been annually distributed all over the country to cultivators whose names have been registered; prizes have been offered and adjudged to cultivators who have produced the best samples of grain from this and other seed; and most favourable terms for repayment, either in money or in kind at pleasure, have been arranged. The demand for pure seed from districts is constantly and largely increasing and will soon more than tax the powers of this Department to satisfy.

Supply of pure seed.

Accordingly, I am now engaged in negotiating with members of the recently-founded Agricultural Association in these provinces for the establishment by them of a joint-stock company for supply of pure seed to all districts, the management being subject to the control and supervision of this Department. His Honour the Lieutenant-Governor has shown the Association that he expects active and intelligent co-operation from them; he has given them much encouragement, and has recognised the good that such an institution is capable of doing. I have, therefore, every hope that success will attend it. But it is difficult to work without the co-operation of District Officers. Some look on all attempts to effect improvements as doomed to failure, refuse their sympathy, and decline to co-operate. Fortunately, however, there are many officers who view such efforts in a different light, and admit that be the success great or small, it is the duty and

interest of the Government to do all it possibly can to foster the agricultural industry of the country, on which everything—revenue, trade, administration—absolutely depends.

Co-operation on Court of Ward's Estates.

In the matter of supply of good seed and encouragement to the growers, District Officers can do a great deal. Words and acts of District Officers are powerful levers. If the Collector of a district showed that he wished a better class of seed sown, started in a small way a competition among growers, promoted the establishment of agricultural shows, awarded prizes for the best grain, and publicly recognised the most meritorious cultivators and zemindars much good would be done, and if the Collector were only allowed to stay in his district and sustain the same personal interest for a few years instead of as now a few months, matters would improve rapidly.

Extension of railway communication.

16. As regards road and railway communications, to which the Chamber of Commerce allude, it is gratifying to find that the North-Western Provinces and Oudh are probably now foremost of all the Indian provinces. During the last three or four years railway extension has made rapid strides, and at the present moment there is no province in India so well served by railways as the North-Western Provinces and Oudh. Every rupee saved has been sunk in rails, engines, and waggons, and export goes on with astonishing rapidity and freedom at numerous points all over the country.

Still there are, doubtless, tracts where railways would be both remunerative and useful. Here the Department of Agriculture ought to make itself useful in advising on those routes where railway communications would be most beneficial and therefore remunerative.

Feeder roads.

17. As to road feeders the same thing may be said. There are parts of these provinces (*e.g.*, from Bánda to Rájapur) which are still sadly in want of permanent road communications, practicable for wheeled traffic all the year round; and perhaps the matter of good feeder roads needs more attention now than do the railways. But it seems to me, from what I have seen and heard of the state of things elsewhere, that the outlets by good roads to the railway lines for the produce of these provinces are more numerous and more complete than those of any other province in India.

Initial impetus to improvement must come from English importers.

18. I would only repeat, in conclusion, that in my opinion endeavour in India to develope the wheat trade will be comparatively infructuous unless backed up by influence in England. It is the London merchants who must give the initial impetus. That impetus once given will be communicated rapidly from the ports to the large country marts, from the marts to the villages, and from the villages to the millions of cultivators who raise the wheat, which, if it only can get a fair chance will, ere long, outstrip its American and Russian rivals, and firmly establish itself in the principal markets of Europe.

Since writing this Note the following case has been brought to my notice:—

In June, 1886, three bags of old wheat belonging to a native agent of a well-known European firm were seized in Muzaffarnagar by order of the Magistrate and samples sent for examination to the local medical officer. The medical officer pronounced them to be quite unfit for human food. The agent, on examination by the Magistrate, stated that he had bought 24 maunds of the condemned grain, and had used it for mixing with other wheat in the proportion of about 1 to 10. He added that before doing so he had reported to his employers that he was unable to buy wheat for them at the rate at which they had allowed unless he was permitted to mix old wheat with new; and that he sent a sample of the mixture for approval. The agent produced copies of correspondence before the Magistrate, which showed that the Bombay firm had approved of the sample, and ordered their up-country branch to purchase accordingly. The agent further stated that the wheat he used for mixing was purchased by him, at 33 seers per rupee, at a time when good wheat was selling at from 16 to 18 seers per rupee.

It will be admitted that facts like these go far to confirm the opinions expressed in paragraphs 4 and 5 of my Note. If, as seems certain, a large European export firm gave its sanction to an admixture of 10 per cent. of rotten grain—pronounced by medical authority to be unfit for human food—with good wheat for the Bombay market, what wonder is it that native dealers in the interior follow the example?

PUNJAB.

39.

GOVERNMENT OF THE PUNJAB to the GOVERNMENT OF INDIA, No. 259, dated 23rd December 1886.

Report by Punjab Government.

Adverting to correspondence ending with Mr. Bayley's letter No. 409A., dated 16th May 1885, on the subject of the construction of warehouses for the storage of wheat, and with special reference to paragraph 3, I am directed to forward, for the information of the Government of India, a copy of the correspondence noted below,* and to say that the Lieutenant-Governor concurs in the opinion of the Financial Commissioner, expressed in paragraph 5 of his letter of 26th November, that as attention has been drawn to the advantages of providing sufficient storage for grain and other commodities at the principal exporting stations on the railway, and a commencement has been made towards providing suitable accommodation at places where it is likely to pay, and where the local and municipal authorities are in favour of establishing warehouses, nothing more in the direction appears feasible at present.

40.

FINANCIAL COMMISSIONER (Honorable Colonel G. W. DAVIES, C.S.I.), Punjab, to GOVERNMENT, PUNJAB, No. 1,025, dated 26th November 1886.

Action taken in providing warehouses for storage.

On receipt of your letter No. 227, dated 29th July 1885, asking for a report on the subject of the construction of warehouses for the storage of wheat, enquiry was made from the Manager of the North-Western Railway as to the stations from which the greatest export of wheat and other grains takes place, and where in his opinion it is most desirable that warehouses should be constructed. In reply† he gave a list of the following stations:—

1. Ludhiána.
2. Ferozepore.
3. Kasúr.
4. Lahore.
5. Amritsar.
6. Dinanagar.
7. Gujar Khan.
8. Mooltan.
9. Gujránwála.

2. On receipt of this reply the Commissioners of Lahore, Jullundur, and Ráwalpindi in whose divisions these stations are situated, were addressed and were requested to obtain from the Deputy Commissioners of the several districts in which the stations mentioned in the Manager's letter are situated reports as to the advisability of erecting warehouses at these places, after consulting the Municipalities adjoining the stations, the commercial public, and the railway authorities.

The result is given in the original correspondence herewith submitted as detailed below,‡ of which a précis also is appended to this letter.

3. From this correspondence it will be seen that arrangements are already in train for erecting warehouses at Lahore, Kasúr, Batálal, and Pathánkot; that at Amritsar a warehouse is considered unnecessary, as Messrs. Ralli Brothers have erected large sheds of their own for cleaning and storing grain; and that at the remaining stations mentioned by the Manager, North-Western Railway, the construction of warehouses is, for the reasons given by the local officers, not considered feasible in the present state of feeling on the part of the traders.

4. At Gujar Khan, which is the largest exporting station on the Lahore and Peshawar Branch of the North-Western Railway, there is no municipality, and if further accommodation than that already in existence is required for the storage of grain, it must be provided by the railway administration itself. But the question at Gujar Khan must remain in abeyance until it is decided whether any change in the

* Financial Commissioner's No. 1,025, dated 26th November 1886, and enclosures.

† Manager, North-Western Railway, No. 656, dated 1st March 1886, to this office.

‡ Commissioner, Lahore, No. 682, dated 24th August 1886. Commissioner, Rawalpindi, No. 557, dated 14th September 1886. Commissioner, Jullundur, No. 3,179, dated 16th October 1886. Commissioner, Jullundur, No. 8,194, dated 19th October 1886.

direction of the line will result from the surveys which are now in progress with the object of reducing the severe gradients at present existing on portions of the line.

5. I am to add that the wishes of the Government of India have now been complied with. Attention has been drawn to the advantages of providing sufficient storage for grain and other commodities at the principal exporting stations on the railway, and a commencement has been made towards providing suitable accommodation at places where it is likely to pay, and where the local and municipal authorities are in favour of establishing warehouses. Nothing more in this direction appears feasible at present.

41.

PRÉCIS OF CORRESPONDENCE forwarded by FINANCIAL COMMISSIONER, Punjab.

Commissioner, Lahore's No. 682, dated 24th August 1886.

Reports of local officers. In reply to our No. 1,604 of 11th March 1886, forwards reports of Deputy Commissioners, with whose views he agrees.

Mooltan. *Deputy Commissioner, Mooltan.*—After consultation with Municipal Committee is of opinion that no bonded warehouse is necessary, the total amount exported being only 16,000 maunds.

Lahore. *Deputy Commissioner, Lahore.*—Construction of a bonded warehouse at Lahore has been sanctioned. Site alone remains to be settled. Construction of a bonded warehouse at *Kasúr* is pending the sanction of a design.

Amritsar. *Deputy Commissioner, Amritsar.*—No bonded warehouse required, more especially as Ralli Brothers have lately erected a large shed close to the goods shed of the station for cleaning and storing grain.

Gurdáspur. *Deputy Commissioner, Gurdáspur.*—No godown necessary at *Dinanagar*, the accommodation at railway station being sufficient. Accommodation is required at *Pathánkot* and *Batála*. Exports at Pathánkot amount to four lakhs of maunds per annum. It is proposed to convert the sarai into a warehouse for storing grain and sugar. At Batála the Municipal Committee have recognised the necessity of some accommodation, and a sub-committee has been appointed to prepare plan and estimate.

Commissioner, Rawalpindi's No, 557, dated 14th September 1886.

Forwards letter from Deputy Commissioners, Gujránwála and Ráwalpindi. The most important point on the line in the district is Gujar Khan, where a warehouse is required, but the place not being a municipality no funds are forthcoming. Moreover as that part of the line is being resurveyed with a view to possibly altering its course, no definite proposals can be made till the result of the survey is known. The Municipal Committee, Gujránwála, thinks the proposal a good one, but cannot say whether it would pay. Apparently there is no urgent need.

Commissioner, Jullundur's No. 3,179, dated 16th October 1886.

Forwards letter from Deputy Commissioners, Ferozepore and Julundur.

Ferozepore. *Deputy Commissioner, Ferozepore.*—Is of opinion that such warehouses would be little used. Mr. Coates, grain merchant, has a large godown of his own, but has never had applications from native traders for the use of it.

Jullundur. *Deputy Commissioner Jullundur.*—Neither the Deputy Commissioner, Municipal Committee, or the traders are in favour of erecting a warehouse.

Commissioner, Jullundur's No. 3,194, dated 19th October 1886.

Forwards report from the Deputy Commissioner of Ludhiana. Deputy Commissioner and municipality are of opinion that bonded warehouses would not be used. There are two empty ones close to the station already. Commissioner suggests that warehouses divided into compartments, of which the hirer could keep the keys, within the railway yard might be more popular.

42.

CHAMBER OF COMMERCE, Karachi, to GOVERNMENT OF INDIA, dated 26th October 1886.

Opinion of Karachi Chamber of Commerce.

I have the honour to acknowledge receipt of your letter No. 767—59—12A., Agricultural Department, dated Simla, the 30th September, with its accompaniments, on the subject of the wheat trade of the Punjab, and asking the views of the Chamber on the question of constructing warehouses at railway stations for the storage of grain.

In reply, I have the honour, by desire of the members, to say that this Chamber is of opinion that the construction of warehouses near railway stations for the storage of grain is a very desirable measure, and one calculated to promote and facilitate the trade passing from the cultivating districts to the port of export. The stations where such warehouses are erected should, however, be decided by the Local Government and railway officials on the spot, who are better able to say where such godowns are needed, and are also able to state the approximate extent to which the warehouses, if constructed, would be utilised.

43.

GOVERNMENT OF INDIA Public Works Department, to GOVERNMENT OF INDIA, Revenue and Agricultural Department, No. 753 R. T., dated 22nd August 1885.

Demurrage charges on Punjab railways.

With refence to Revenue and Agricultural Department endorsement No. 67A.—42-4 dated the 16th May 1885, forwarding, for an expression of opinion, copies of correspondence on the subject of the necessity for providing facilities for the development of the wheat trade of the Punjab, the undersigned is directed to forward for information copies of reports by the Managers of the Punjab Northern and Indus Valley State Railways, on the questions of the demurrage charges levied by these railways and of the provision of warehouses, and to say that the Government of India in the Public Works Department endorses the opinions expressed by these officers.

2. The attention of the Revenue and Agricultural Department is, at the same time, invited to the remarks in paragraph 3 of the report of the Manager, Indus Valley State Railway, regarding the warehouses at Larkhana and the imposition of octroi duty.

44.

OFFICIATING MANAGER, Punjab Northern State Railway, to DIRECTOR-GENERAL OF RAILWAYS, No. 3,113, dated 17th June 1885.

As directed in your letter No. 329T., dated 13th June 1885, I have the honour to report on the questions raised in paragraphs 10 and 11 of Resolution No. 95, dated 19th March, by the Honourable the Lieutenant-Governor of the Punjab.

Wheat freights on Punjab Northern State Railway.

2. As regards the remark that railway freights to Karachi must run high, I would observe that wheat is carried over the Punjab Northern State Railway at a rate of $\frac{1}{8}$ pie per maund per mile, lower than which there is no rate for the carriage of wheat by railway in India. I should be very glad to see this made the through rate to Karachi, and trust that the through charge will be reduced next year.

Demurrage.

3. The charge for demurrage on goods is no doubt unpopular among the native community, but it can be altogether avoided, and considering that 48 hours or more is allowed for the removal of goods, it should seldom be incurred. The trader would like to leave his goods at the station at the risk of the railway for an indefinite period in many cases, hoping to dispose of them without any cost for cartage or storage. The general adoption of such a practice is obviously objectionable. The chance of theft would be greatly increased, and necessarily accommodation would have to be greatly enlarged.

Provision of warehouses.

4. The question of warehouses as depôts of trade is of the first importance, but the establishment of these has not been considered as falling within the duties of railway administrations. On this subject I would invite attention to Resolution in the Home, Revenue, and Agricultural Department, No. 5,667, dated 30th April 1881. The establishment of such godowns on a proper system would do much to develope the grain trade of the Province, and would, in some measure, mitigate the want of feeder roads; but I am inclined to think that they would have the contrary effect to that mentioned in paragraph 2 of the Resolution, as on any sudden rise of the market rate all the traders having grain in the warehouse would desire its immediate despatch by

rail. Be this, however, as it may, I am convinced that this question is in the first rank of importance, as regards the grain trade of the Province, but that it cannot be considered as a legitimate function of railway enterprise.

Your letter under reply and the connected papers have, as desired, been sent on in original to the Manager, Indus Valley State Railway.

45.

MANAGER, Indus Valley State Railway, to DIRECTOR-GENERAL OF RAILWAYS, No. 370, dated 3rd August 1885.

I have the honour to return your No. 329T., dated 13th June 1885, and enclosures, and to report as follows on the question of demurrage and warehouses.

Demurrage on Indus Valley State Railway.

2. It would, no doubt, be highly popular among the trading community if the railway charge for demurrage were abolished, until in a rush of traffic the railway had entirely to stop carrying goods until its premises were cleared, which would be the inevitable result of allowing the railway premises to be converted into store yards. Two clear days, not counting the day on which goods arrive, are allowed free of demurrage on this and connected lines. This seems a very liberal allowance. It compels a railway to find room free of charge for as much as it can bring in during three days; it acts as a powerful stimulant to traders to remove their goods rapidly, thereby allowing the railway to work to its full carrying capacity, and the amount received by a railway for demurrage is usually a very inadequate compensation for the loss, delay, and limit of its carrying power, caused by accumulations of goods during a rush of traffic to any particular station.

Warehouses and octroi.

3. Warehouses in the vicinity of stations would seem to be chiefly wanted as a means of avoiding the trouble and loss connected with the payment and refund of octroi. This was one of the principal objects which induced the local authorities at Larkhana to build bonded warehouses. This is one of the chief exporting stations on this line; the warehouses in question are very convenient, being close to the station, and are rented at a fair interest on their cost. In similar circumstances they might be useful elsewhere. But if octroi were abolished on all items of which local consumption bears but a small proportion to the export trade, we should, I think, hear very little of the want of warehouses.

4. The want of storage room at Sukkur is a very special case. Enormous quantities of grain and seeds now come to Sukkur by boat and take the rail at Sukkur for Karachi. Storage room is therefore required along the river front, which is close to the boats and the railway. This river frontage is limited; more ground requires to be occupied and served by fresh sidings at great cost; whereas perhaps in a few years, as railways extend in the Punjab, the amount brought into Sukkur by river may greatly diminish.

Freight rates.

5. The above two matters of demurrage and warehouses are the only ones referred to the Public Works Department, but I may perhaps be permitted to add a few remarks on some other points in the Punjab Government Resolution No. 95. Paragraph 10 admits and deplores that railway freight to Karachi must rule high. This seems rather unfair to this railway, which first introduced the present low standard of rates for grain and seeds in 1882, afterwards followed by the lines to the other ports, so that now the rates are almost the same, *viz.* :—

	Miles.	Rate per maund. R A. P.
Delhi to Bombay - -	888	0 11 0 grain. 0 11 6 seeds.
Lahore to Karachi - -	821	0 11 9 grain and seeds.

The low rates on this line are maintained notwithstanding a very poor passenger traffic as compared with other lines and an absence of traffic which can bear high rate, so that the average sum received for carrying one ton one mile is lower on this line than on any other line in India.

6. That, as stated in paragraph 14 of the Resolution, the Sukkur bridge will give a great impetus to export trade and effect a saving in time and money, is a fallacy so well known to you that I should not allude to it if it did not seem desirable to notice it when laid down on such high authority. The export trade suffers very little delay and no charge from the want of a bridge, and the rates to and from Karachi are already quite as low as in the case of the other ports.

CENTRAL PROVINCES.

46.

CHIEF COMMISSIONER, Central Provinces, to GOVERNMENT OF INDIA, No. 9,038, dated 28th October 1886.

Referring to your letter, No. 768—59–11, dated 30th September 1886, on the subject of the construction of warehouses near railway stations for the storage of wheat, which was brought to the attention of this Administration in Circular No. 67—42–4A., dated 16th May 1885, I am directed to forward a copy of a letter* recently addressed to the Government of Bombay, which will indicate what steps have been taken in this direction in these Provinces.

2. Mr. Fitzpatrick agrees with Mr. Crosthwaite in thinking that the action which has been taken in acquiring plots of ground in the vicinity of railway stations may be anticipated to effect all that can be expected of this Administration in this matter. It appears to be entirely in accordance with the views of Government regarding the co-operation of Government with private enterprise. This Administration has undertaken to provide sites for storage godowns at the places where they may be required. It rests for private enterprise to construct the godowns.

Acquisition of land for warehouses.

47.

CHIEF COMMISSIONER, Central Provinces, to GOVERNMENT OF BOMBAY, Public Works Department, No. 753, dated 10th September 1886.

Referring to your letter, No. 1,678, dated 27th July 1886, with annexures, on the above subject, I am directed to inform you that it was decided by this Administration some time ago to acquire a plot of ground in the close vicinity of every railway station in the provinces which would serve as a site for warehouses should these at any time be required, and already a plot has been selected and taken up at nearly every station except those at which the existing traffic is quite insignificant. It is proposed to allot sites to private persons for the erection of warehouses on these plots either without charge or at a very low charge, and the Officiating Chief Commissioner, as at present advised, does not consider that he would be justified in incurring expenditure in order to do more than this, or that large sums should be spent either from provincial or local funds in erecting warehouses, especially at this time of financial pressure. In providing sites which traders might have a difficulty in acquiring for themselves, Mr. Fitzpatrick thinks that the Government is doing all that can be expected of it. The warehouses should be erected by the traders themselves, and they will certainly be erected when they are really required.

Warehouses should be erected by traders.

2. I am to add that it is by no means easy for the Government to determine beforehand at what places storage accommodation is likely to be made use of. The experience which Mr. Fitzpatrick has had of the well-meant efforts of himself and other officers in cases more or less similar has been that in a considerable proportion of cases buildings have been erected which have been but little used.

BERAR.

48.

RESIDENT, Hyderabad, to GOVERNMENT OF INDIA, No. 454, dated 13th December 1886.

The Resident considers that although careful selection of pedigree wheat for seed is not yet either the practice or even the aim of the cultivator in Berar, yet the correspondence under transmission shows generally that the presence of purchasers for the European market is bringing home to the people the benefit of attention to this point. What can be done in the way of instruction and advice in the shape of circular orders appears to have been imparted in the same spirit as that advocated by the Government of the Punjab. The Resident concurs in the Commissioner's view that the effect of prizes has so narrow a range that it hardly remunerates the cultivator for

Action taken in Berar.

* No. 753S., dated 10th September 1886.

the expense and trouble of competition; and the exhibition of specimens is small, if not made compulsory, and in that case such a system does more harm than good. Mr. Cordery is not prepared to press for any more direct measures of encouragement than have already been effected; but the result of experiments with new varieties of seed now going on will be watched with much interest and reported upon.

49.

COMMISSIONER, Hyderabad Assigned Districts, to RESIDENT, Hyderabad, No. 5,913, dated 22nd November 1886.

* * * * * *

Prizes for wheat cultivation of little utility.

3. The Agricultural Association at Amraoti suggest among other things for the improvement and encouragement of wheat cultivation that prizes should be offered. I am of opinion that no good would result from offering prizes. The ryots now fully understand the mischief done by sowing wheat mixed with other grains, and buyers give them practical illustrations of the disadvantages of offering dirty wheat for sale in the market by offering lower prices for it, and accounting for so doing by the sale of the wheat. A lesson thus learnt does the ryot more good than any amount of prizes would do, and he is keen enough to profit by the lesson when it so closely concerns his pocket.

4. In 1883 a circular was issued advising cultivators to take care to sow nothing in the same field with wheat, and impressing on them the importance of keeping both the hard and soft varieties of wheat quite distinct in preparing their seed for sowing; also in seeing that their floors are perfectly clean before they commence to thresh or winnow wheat, to put nothing but clean wheat into bags, and to see that on the way to the market dirt does not get into the bags. It was also explained that if these precautions are observed, the result will be an increase of the price at which their wheat will be bought. I do not think that we can do more than advise cultivators.

Improvement will result from influence of trade demand.

5. District Officers in Berar have also not been unaware of the importance of improving the quality of the wheat crop. Experiments instituted with this object have been made in almost every district. The Deputy Commissioner, Ellichpur, obtained from the Nerbudda Valley as seed some of the best quality of wheat from there, but found that it utterly failed in Berar. All necessary change in this direction will no doubt be brought about by the mere fact that European buyers are in the market to offer higher prices for one quality of wheat than another. The cultivators are quite alive to their own advantages. Formerly no particular attention was given to the different qualities of wheat, but since buyers for the European market have arrived, the value of these qualities has been distinguished.

6. As regards the improvement and development of the wheat trade, the first great requirement in providing good roads is not lost sight of. The main lines of communications, which extend to over 655 miles, are kept in excellent condition. The several branch lines of district roads leading to the railways in each district, which extend to over 3,000 miles, are kept in good repair.

Warehouses sufficiently provided for.

As regards warehouse accommodation, storage sheds have been erected at Mulkapur, Nandura, Murtizapur, and Dhamangoon. Those at the three places first named from local funds, and at Dhamangoon by Messrs. Ralli Brothers, who are amongst the largest importers of grain in the province. Messrs. Ralli Brothers have also rented a piece of ground near the railway station at Amraoti, where they intend to store grain in sheds. The sheds erected at the railway stations above named are only used by the people in the monsoon months, when the grain traffic is nearly over. At other stations on the line of railway the want of sheds is not felt, as the towns are close to the stations, and traders store their grain in pits in the towns. Besides, during eight months in the year people can store their grain in the open ground with safety. During the other four months there is generally little doing, as roads are generally impassable, and when there is, the accommodation available at the stations as a rule suffices, for during these four months the cotton season is over, and the wheat trade has the whole railway accommodation to itself.

50.

DEPUTY COMMISSIONER, Buldana District, to COMMISSIONER, Hyderabad Assigned Districts, No. 1,611, dated 25th June 1885.

In acknowledging the receipt of your letter No. 2,923, dated 19th June 1885, I have the honour to state that there are no municipalities in this district, but the Deputy Commissioner, from local funds, has erected sheds at the two principal stations, viz., Mulkapur and Nandura, the right to collect the fees in which were lately sold by auction for the current year (1885–86), and fetched only R.26. Buldana.

2. These sheds are, in Berar at least, not required. The people can store their grain on the open ground with safety during eight months in the year. During the other four months there is generally little doing, and when there is, the accommodation available at the stations as a rule suffices, as during those four months the cotton season is over, and the wheat trade has the whole railway accommodation to itself.

3. I am requested to "submit proposals for the encouragement and increase of "wheat cultivation and for the improvement and development of the wheat trade."

In reply, I have the honour to state that I have little to recommend except that on our roads broken stone metal be used instead of moorum, which will not stand the traffic, and that when this has been done all over the district, that then bridges be built instead of causeways as at present.

The railway returns for Berar, when compared with even those of the Central Provinces, will show that we are but little behind in our exports, which proves that we are doing very well and only require high rates in Bombay to again export wheat in almost limitless quantities.

51.

DEPUTY COMMISSIONER, Ellichpur District, to COMMISSIONER, Hyderabad Assigned Districts, No. 1,863, dated 18th August 1885.

I am uncertain if a reply is expected of me so far as measures in this district are concerned to your Circular No. 2,923, dated 19th June last, *in re* the improvement and development of the wheat trade, for we are not on the rail and the city municipality is not called on to do anything. Ellichpur.

2. In case it is, following the classification of the difficulties that present themselves in such matters under the two heads given in the resolution* accompanying your letter, viz., as—

Firstly—Economical.
Secondly—Administrative and physical.

I would say that the removal of the first lies chiefly, if not wholly, in the hands of the trade and in the hands of those whose personal interest is connected with wheat culture. Government, as Government, so far as my experience goes, can seldom in this direction usefully interfere. If the abuses or difficulties stand in the way of profits, trade instinct will certainly sooner or later clear them away. If they do not touch profits, they practically do no harm to those most interested, however theoretically undesirable they may appear to outsiders to be. Government interference with cultivation or trade deprecated.

For example, to take the case of the delivery of dirty and mixed grain which is deplored in the resolution,† what keeps the practice alive? Nothing but that the traders or their middlemen-representatives in the market make no difference in the price they offer between the sifted and clean and the dirty article. No body of men *in their own interests* are keener or sharper, I believe, than our kunbis, and as long as they see that they can get as good a price for the dirty and adulterated as for the cleaner and purer stuff, they will never take the extra trouble and expense that securing the latter obviously entails: why should they? The real fact is trade on the platform and in the press—trade, pushing the Government to do this and that—preaches a morality which in the market-place it does not practise.

3. As to the second class of difficulties, the administrative and physical, I am not in a position as to the administrative to discuss the bearing of the Great Indian Peninsula Physical and administrative difficulties.

* Paragraph 4. † Paragraph 5.

Railway freight charges on our wheat trade, nor to assert that relief in this direction is either desirable or possible. Our physical difficulties, however, are gradually being overcome as the Public Works forecast drawn up some years ago is being worked out, opening feeders* to the main system of the Province, viz., the Great Indian Peninsula Railway. It is not necessary in this letter to re-discuss the forecast proposals since work is annually being pushed on as rapidly as funds permit. All districts cannot be served at once; projects must of course take their turn in order of apparent merit, and they have also to wait on the departmental exigencies of the Department Public Works. For these reasons what was proposed here for the Duriapur taluk and in part for the Mailghat as more immediately desirable remains in part to be accomplished.

52.

Amraoti. DEPUTY COMMISSIONER, Amraoti District, to COMMISSIONER, Hyderabad Assigned Districts, No. 544, dated 11th September 1885.

Warehouses at Amraoti. The next question is as to the facilities for storage of grain at railway stations; the Amraoti Municipality have discussed the subject on a former reference and arrived at the conclusion that there was no necessity for any godowns here, and that it would not pay them to erect them.

Messrs. Ralli Brothers, who are the largest exporters here, have rented a piece of ground near the station, where they intend to store grain in sheds; other traders here store grain, I believe, in cellars in the town, and I have never noticed any inconvenience from want of sheds, except perhaps during a scarcity.

I erected a small shed at Murtuzapur, which is, however, at present not much used; I have placed it under the local committee, and I intended if it was used to make another.

53.

Akola. DEPUTY COMMISSIONER, Akola District, to COMMISSIONER, Hyderabad Assigned Districts, No. 1478, dated 18th October 1886.

In reply to your No. 2,923 of the 19th June 1885, on the subject of the improvement of the wheat trade and the construction of warehouses near railway stations for the storage of wheat, I have the honour to report as follows:—

Encouragement and advice to cultivators. Instructions have long ago been issued to all the tehsildars in the district in the spirit of those contained in the printed Resolution of the Punjab Government, copy of which was received with your letter under reply, and it now only remains to be seen whether the action taken will be productive of any satisfactory results. Cultivators in this province are, as a rule, alive to their own interests, as proved by the fact that favourable seasons have always been accompanied by extended cultivation of the staple; while seasons believed to be unfavourable have been attended with a large diminution of the area under the crop.

All that needs to be done is to encourage the cultivators to raise a better and more superior description of wheat than that usually raised in most parts, and in this direction the tehsildars have been asked to exert themselves.

Provision of warehouses by municipalities. Referring to paragraph II. of your letter under acknowledgment, I regret that nothing has yet been done either by municipalities or local committees in the matter of construction of warehouses near railway stations for the storage of wheat. The action taken in this district on receipt of Resident's Book Circular No. XII. of 1881, and the subsequent letters from your office was duly reported in the letters from this office marginally noted.†

From this correspondence it will be seen that none of the municipalities feel justified in moving in the matter just yet. The fact is that local circumstances, and the

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* Paragraph 7 of the Resolution.

† No. 114, dated 24th January 1882, with endorsement No. 1,301, dated 8th October 1885, with enclosures.

carrying and removing capacity of the Great Indian Peninsula Railway at the stations in this district have hitherto been such that the want of a warehouse has never been keenly felt; and until such want arises, it can hardly be expected that any definite action will be taken by municipal or other local bodies in the direction of investing their funds in warehouses.

A copy of your present letter has, however, been circulated to all the municipalities in the district, in view to the subject being borne in mind whenever an opportunity should occur for giving effect to the proposals of Government in the matter.

54.

DEPUTY COMMISSIONER, Basim District, to COMMISSIONER, Hyderabad Assigned Districts, No. 3,045, dated 31st October 1885. — Basim.

The wheat in this district grows so short that it has to be cut close, and this causes many roots with the mud sticking to them to be gathered; hence there is sometimes a certain amount of dirt that gets introduced with the grain. The threshing floors are what the people have always used, and no amount of talk or persuading will make them change these. — Natural difficulties in cleaning wheat.

It will be years, if ever, before we can induce the ordinary cultivator to thresh wheat on a wood, canvas, or matting floor, or cleaning the grain with a fan.

The arrangement suggested in paragraph 5 of stacking wheat in sacks would be very expensive and inappropriate, as the sacks would have to be stored in some room and the wheat in them would be much more liable to injury from insects and rats than in the *poes* and *kangees* of the present day.

Machinery for cleaning grain at present is too costly to be introduced by private persons.

The admixture of other grains, such as "kardi" (rai) mustard, into wheat has been put a stop to as much as possible, but those cultivators who have only a field or two find it very difficult, owing to insufficiency of land for other minor produce.

The low price of wheat and its constant fluctuations compared with the high and steady price of linseed makes the latter a much more favourite crop in this district.

There are no large merchants in this district; all are petty traders.

If cultivators could get good prices for the fine kinds of wheat, and merchants would combine and refuse to take any but good and well cleaned wheat, the cultivators would soon learn that it is worth their while to grow the finer sorts and to clean their wheat more thoroughly; but as long as there is this great competition among merchants, and the kunbis can sell their dirty wheat and baser sorts for the same or nearly the same price as the finer and clean, they naturally will not put themselves out of the way to grow the finer sort or take the extra trouble in cleaning. The only remedy lies in the hands of merchants themselves. — How clean wheat might be obtained.

55.

SECRETARY, Agricultural Association, Amraoti, to COMMISSIONER, Hyderabad Assigned Districts, No. 111, dated 10th August 1885.

I find that the wheat trade of India suffered chiefly from four causes; (1) that the wheat prepared for markets here is mixed with soil and other smaller grains. This dirty condition of our wheat cannot command to it a high price; (2) that want of cheaper communication and export throughout the interior and exterior of the wheat-producing parts of this province; (3) that any such system or measure has not as yet been adopted by which the wheat-grower and traders might be always kept informed of the high rates paid to Indian wheats of the best description, of the classes of wheats preferred by foreigners, and of the measures and weights used in foreign markets; (4) that in the wheat-producing districts of India no large centres of trade are established and none of the large centres at present existing are in proximity to any large railway station. Moreover, at such centres of trade no large and accommodating warehouses have been built. — Four causes injuriously affecting the wheat trade.

All these defects have been demonstrated in the annexed Punjab Government resolution, and measures for remedying these defects are also ably and exhaustively suggested. In addition to them I have to make a few remarks respecting each of them, which I hope shall be useful to promote the wheat trade of this province—

Remedies suggested.

1st. Brokers or middlemen of grain trade should be specially requested to refrain themselves from receiving dirty or mixed grains, or at least to rate it at a very low price, or all grain brokers should be compelled to take licenses as is done by the cotton-market brokers. A set of rules for granting such licenses be framed and passed by the sanction of the Resident. In the body of these rules a section of the following purport be inserted :—that no license holder should ever encourage the sale of dirty or mixed grains under penalty of fine. The fund collected by the sale of these licenses be made over to the proposed Association, or the work of issuing such licenses be better entrusted to it. The Association should see its way at its earliest convenience and with the strictest economy to purchase from its savings some steam-threshing and cleaning machines.

2nd. Want of cheaper communication be supplied by extension of branch railways or tramways where possible. These branch railways or tramways should traverse all the places, small as well as large, throughout wheat-producing parts of this province. The proposals and plans for constructing such branch railways or tramways be made by the Association.

3rd. The Association, if formed, should be requested to prepare the statistical and other information which shall prove beneficial and encouraging to growers of as well as to traders in food grains.

4th. For the sake of experiment at present the following four railway stations be selected as centres of trade in Berar, Amraoti, Dammergaum, Khamgaum, and Mulkapur. Warehouses, if practicable, be also built there. They may be built either by Government or by municipalities where they exist, or by the proposed Association.

With a view to develope and improve the wheat trade, &c., I have suggested four means above referred to. I have also connected the Association with each of these measures in its execution. For I am of opinion that if such a useful body be organised, and if the Local Government shall cordially assist and co-operate with it, a new era shall be opened in the history of commerce of this province.

In addition to all the measures, I also think that if the *export duty on grains* at least be lessened, it shall give a great stimulus to the exportation of grains from India.

Competition of linseed with wheat.

Native merchants argue that the linseed production has, for the last few years, been making rapid strides, as higher rates than wheat per khandi are being secured for it, and that, unless either the wheat should command the higher rate than linseed, or the linseed cultivation should decrease, production of wheat shall not be increased or encouraged; consequently, until any of the two things should happen, the wheat trade should neither be developed nor improved.

Ajmere.

56.

From Chief Commissioner, Ajmere Merwara, to Government of India,
No. 742—250, dated 11th July 1888.

With reference to your office endorsement No. 1,765 I., dated the 1st June 1885, forwarding, for information and guidance, copy of Revenue and Agricultural Department Circular No. 67A—42–4 regarding the provision of increased facilities for the wheat trade, I have the honour to enclose, for such orders as the Government of India may deem necessary, copy of a letter No. 1,656 R, dated the 2nd July 1888, and of its enclosures, from the Commissioner Ajmere-Merwara, from which it will be seen that the wheat trade of the district is very insignificant and the means of transport more than sufficient.

57.

From COMMISSIONER, Ajmere-Merwara, to CHIEF COMMISSIONER, Ajmere-Merwara, No. 1656 R., dated 2nd July 1888.

With reference to the circular of the Government of India noted below,* which forwarded a resolution by the Government of the Punjab on the subject of the wheat trade of that province, I have the honour to submit the following report.

2. Before leaving Ajmere Mr. Whiteway, settlement officer, noted that "the terms "of this circular do not seem applicable to Ajmere-Merwara. These districts," he observed, "are small in area, they produce but little wheat, and their export trade is "practically inappreciable."

3. A return supplied to me by the Traffic Department of the Rajputana-Malwa Railway last year does not show what export of wheat there was by the railway, grain and pulses, including wheat, being all lumped together; but the Assistant Commissioner of Ajmere was informed by the Agent of the Railway last January that wheat was then being imported into Ajmere, and there can be no doubt as to the accuracy of Mr. Whiteway's remarks just quoted. A reference to the statement of crops cultivated in Ajmere-Merwara, appended to the administration Reports from 1880–81 to 1885–86, shows that the area under wheat increased considerably in 1882–83 and 1883–84 and decreased considerably in 1884–85. In 1885-86 it was under 5 per cent. of the total area under cultivation in Ajmere. The figures for Merwara are not available.

4. The result of the inquiries made and action taken in respect to the circular under notice may be seen from the reports attached from the Assistant Commissioners, the Deputy Magistrate of Kekri and the Tehsildar of Ajmere. I agree with what Mr. Bayley writes on the subject. There seems to be no need and very little scope for administrative action at present. I will see what can be done to introduce the white wheat recommended as opportunity offers. When the cultivation of wheat is extended measures for cleaning it should engage attention. As to facilities of transport, there is no ground for complaint at present. The suggestion made by the Tehsildar of Ajmere that the main points treated of in the Resolution of the Punjab Government might be embodied in a pamphlet and circulated in the vernacular, so as to keep before the cultivator the objects aimed at in it, appears to be worthy of adoption. It is possible that some simple directions on the subject have been circulated in the Punjab. If so, I should be glad to have copies of them.

58.

From ASSISTANT COMMISSIONER, Merwara, Beawar, to COMMISSIONER, Ajmere-Merwara, No. D.—122 M., dated the 7th June 1888.

With reference to your letter No. 68, R., dated the 7th March 1887, calling for my remarks on the subject of providing facilities for improving the wheat trade in India, I have the honour to report that little wheat is cultivated in Merwara in comparison with other crops, owing to its being subject to a disease known locally as "roli," a kind of red blight or rust, which first attacks the stem of the plant, and sometimes the ear, and injures the growth of the grain. There are two descriptions of wheat grown in this district, viz., *baja* and *kata*. *Baja* is a soft red grain, and is used for making into *atta*. *Kata* is a hard white grain, and is suitable for dullea, soojee, flour, &c.

2. *Baja* is principally grown in the Beawar Tehsil, while *kata* wheat is more general in the Todgurh Tehsil. *Kata* is not so subject to "roli" as *baja*; on the other hand it does not fetch quite so high a price.

3. During the last year I found that in the Todgurh Tehsil, owing to the damage sustained by the opium crops from frost, and a fall in the price of opium, the zemindars were cultivating wheat where they used formerly to grow poppy.

4. The trade in wheat in the Beawar market has lately become brisk, and although most of the wheat comes from Marwar, yet this will also effect, to a certain extent, the cultivation of this grain in the district. Improvement of the means of communication

* No. 67A—42-4, dated 16th May 1885, in the Revenue and Agricultural Department.

within the district would tend to facilitate the trade in this as well as the other products of the district, for which a ready and brisk market exists at Beawar; and this being an imperial question, I would venture to suggest for your consideration in this connection whether the main road running down Merwara should not be kept up as an imperial road. If the road were made easier for traffic it would reduce the cost of transport and thus facilitate trade.

59.

From Assistant Commissioner, Ajmere, to Commissioner, Ajmere-Merwara, No. 63, dated 16th January 1888.

In acknowledging the receipt of your letter No. 67R., dated the 7th March last, I have the honour to enclose a translation of a report by the Deputy Magistrate of Kekri and a copy of a note by the Tehsildar of Ajmere on the subject of wheat. The result of the experiments which it was proposed to try and which are, I presume, now being carried out in Kekri may be awaited, but it will be observed that the Tehsildar practically agrees with Mr. Whiteway in thinking that no action on the part of the district authorities is likely to be of much use, as Ajmere is not, to any great extent, a wheat-producing district, and it is hardly a wheat-exporting district at all. At the present time, I was recently informed in a conversation by Major Bissett, wheat is being imported into Ajmere from the southern districts of the Punjab. The area of irrigated land is small, and is generally as fully cultivated as the amount of irrigation possibly admits. The cultivation is fairly careful, and the zemindars may be trusted to cultivate the crop that pays them best. If they can profitably produce more wheat they will do so; if other crops pay better, they will and ought to cultivate the latter. There is no want of facilities for export. The roads no doubt are not good in many places, but they are everywhere passable, and cotton at present finds its way from all parts of the district to the various presses at Beawar, Kekri, Nusseerabad, and Kishengurh. A sufficient rise in the price of wheat would, I have no doubt, be followed by an extension of cultivation of any sort for which there is a demand; until this occurs, I doubt whether Government can usefully take any action.

Translation of a Rubkar from the Deputy Magistrate of Kekri, dated 13th June 1887.

Having assembled the traders and lambardars of Kekri together, the contents of Circular No. A. 67—4,204, dated 16th May 1885, of the Government of India, Revenue and Agricultural Department, were announced to them. On inquiring into the condition of progress of wheat cultivation, they unanimously said that in that part of the district the average yield of wheat per acre of *chahi* (land irrigated by well) was from 2 to 4 maunds, and that of land irrigated by tank was from 5 to 12½ maunds. The nature of the soil did not admit of the cultivation of white wheat, as it turned wheat of any sort sown into it in a sort of hard red wheat, but the zemindars would be instructed to cultivate white wheat. The zemindars would not at once adopt the cultivation of the white wheat because the seed is not obtainable here immediately, but some big zemindars will be persuaded to make an experiment to sow white wheat in two or three beds of their respective fields. If the experiment proves successful, the cultivation of white wheat will be extended. Attention will be paid to the matter of cleaning the wheat. The traders say that if the wheat is not properly cleaned they can have it cleaned so as to make it fit for export. Government should arrange for the godown, &c., and I also agree with this proposal.

Note by Tehsildar of Ajmere.

I have consulted the chief traders and lambardars on the subject. The produce of wheat in this district is very scanty. It is hardly sufficient for the requirements of the place, and consequently very little, if any, is ever exported. There is no doubt that the advantages to be derived from turning out a clean sack of wheat are considerable, and in most parts of India people will be much benefited by the suggestions contained in the above circular. But the case is quite different in Ajmere. Apart

from there being a scanty produce of wheat, there are no big agriculturists here in the khalsa villages, where people are involved in debts and are entirely at the mercy of the middlemen. There are no big zemindars like those in the North-West Provinces and the Punjab, who would undertake the heavy expenditure of purchasing winnowing machines with a view to cleaning grain for export. The simplest mode suggested in the circular, that of cleaning wheat on a wood, canvas, or matting floor, could with advantage be adopted here, but in the khalsa villages I am afraid it would be rather difficult, considering the state of the agricultural class in general. Almost all men of these classes live from hand to mouth, and can hardly afford to make any improvement in the system whatever. Should it, however, be considered desirable to make an experiment in the district, the best course would, I think, be to induce some of the well-to-do istimrardars, such as the Rajah of Bhinai or the Rao of Masuda, &c., to make a commencement. For instance, an experiment might in the first place be made in places like Jalia and Barl where the soil is very fertile and could grow better sort of grain. As a rule people in general grow red wheat here, and the soil of this place is, I understand, adapted for such sort of grain. The soil being generally rather hard, soft white wheat would not grow. The ground being rockish, the grain in these districts is often mixed with stony substance and is seldom found clean. The attention of the people will be drawn to this very important subject. The circular under reference is no doubt a very valuable acquisition, and with a view that the people grasp the subject thoroughly, I would propose that an abstract of the main points requiring special attention might be translated, and about 500 copies printed for circulation, provided it is thought expedient to make an experiment in some of the istimrari estates. But with the scanty produce of the grain in the district such a course would not be necessary.

APPENDICES TO PART I.

APPENDIX A.

Correspondence in 1886, 1887, and 1888 between the Bombay Chamber of Commerce and the various Corn Trade Associations in the United Kingdom regarding measures for the improvement in cleanliness of Indian wheat. (Reprinted from the Chamber's Annual Reports.)

1.

CHAMBER of COMMERCE, Bombay, to CHAIRMAN, Corn Trade Association, London, Liverpool, Glasgow and Hull, dated 12th November 1886.

Reduction of "refraction" proposed.

I am directed by the Committee of the Chamber to invite the co-operation and assistance of your Association towards securing, if possible, an improvement in the cleanliness and condition of Indian wheat as shipped to European markets.

The results of a recent conference with the leading firms engaged in the trade here seem to indicate that the movement would require to be initiated on your side, and my Committee trust you will be disposed to place their suggestions before the members of your Association with the advantage of your countenance and support.

From the information which the Chamber has been able to obtain there seems no reason to doubt that wheat as originally cleaned by the farmer seldom contained more than about 1 per cent. of admixture. Owing to the practice having sprung up of allowing 4 per cent. as the basis on which arrival contracts are effected, the custom of increasing the refraction up to that point has gradually been established, and from the keen competition which exists, the probability is that the tendency is rather to exceed that limit than otherwise. A shipper under an arrival contract, in fact, has no inducement to insist on his sellers delivering wheat with a lower refraction than 4 per cent., but if your buyers were to base their purchases in future on contracts which stipulated for an admixture not exceeding 1 or 2 per cent., the grain would require to be cleaned up to that standard, and the addition of dirt by the farmer, or after the produce left his hands, would in a short time practically cease.

To the miller or consumer no arguments are required to demonstrate the numerous advantages of being able to obtain clean grain, but to others less closely affected the direct benefit may not be so readily apparent All will admit, however, that any material reduction in the first cost of the article must be not only for the benefit of the producer and the country at large, but also for that of others interested, either as exporters, importers, or dealers; and the following figures, showing that an admixture of 4 per cent. of dirt means a burden of something like 1¼ per cent. on the Indian wheat trade in its competition with other countries, afford of themselves a conclusive proof of the desirability of instituting a reform:—

Railway fare from Delhi on 4 per cent. of 492lbs. was equal at 1*s.* 6*d.* exchange to - - - - - -	2½*d.*	per quarter.
Steam freight at 20*s.* per ton of 18 cwt. was equal on 4 per cent. to - - - - - - -	2½*d.*	„
TOTAL -	5	„

Shipments from Bombay in 1885 were 602,000 tons, or 2,470,000 qrs., which at 32*s.* 6*d.* per qr. amounted to 4,010,000*l.* Five pence per qr. totalled 51,000*l*, or, as nearly as possible, 1¼ per cent. of 4,010,000*l.*

As already remarked, my Committee have taken care to ascertain the views of those most largely connected with the exports of wheat from this port, and the opinion of the majority is that the suggested improvement in the cleanliness of shipments would be a great advantage, as also that the movement, to be successful, should originate on your side, and take the form of basing all arrival business from a date hereafter to be fixed on an admixture of dirt not exceeding 2 per cent.

2.

LIVERPOOL CORN TRADE ASSOCIATION, to CHAMBER of COMMERCE, Bombay, dated 3rd December 1886.

Reply of Liverpool Corn Trade Association.

Your favour of 26th ultimo is duly to hand, and I am instructed to state it is with much pleasure that my Directors receive this support to a reform which they have advocated for some time. Your letter has considerably strengthened their hands, and you may rest assured that they will do their best to have your views carried into effect at an early date.

I shall have much pleasure in reporting progress in due course.

3

LONDON CORN TRADE ASSOCIATION, to CHAMBER of COMMERCE, Bombay, dated 11th February 1887.

Reply of London Chamber.

Referring to your letter of the 12th November last addressed to my Chairman, I am desired by him to reply that the Committee of this Association, while fully alive to the importance of Indian wheats coming forward as clean as possible, is of opinion that the character and value of Bombay wheats must depend mainly on the efforts of the Chamber of Commerce to check the admixture of foreign substances.

It has been the custom of the East India Wheat Committee when making up standards to exclude all samples showing an undue admixture of dirt which has been emphasised by the Resolution of the Executive Committee consequent upon your letter, copy of which I enclose.

By adhering to this rule, and enforcing it as strictly as possible, the Committee is of opinion it will best assist the Bombay Chamber of Commerce in the object it has in view.

COPY OF RESOLUTION.

"That it be an instruction to the East India Wheat Committee to exclude any samples containing excess of dirt from the standards, and that a letter be written to the Bombay Chamber of Commerce informing it of the action the London Corn Trade Association had taken, and requesting it to use its efforts to prevent, as far as possible, the shipment of dirt in Indian grain of all kinds."

4.

EXTRACT from the REPORT of the BOMBAY CHAMBER of COMMERCE for the year 1888.

Summary of action taken by Bombay Chamber.

In February last the Liverpool Corn Trade Association adopted a resolution to the effect that "no standards of choice" or No. 1 white Bombay wheat be made up for the coming season, but that the words "Liverpool standard" as applied to these descriptions shall mean—

(*a*) In the case of "choice" white Bombay wheat, containing not less than 93 per cent. of soft white club wheat and not more than 4 per cent. of soft and hard red, nor more than 3 per cent. of dirt, seed and grain other than wheat.

(*b*) In the case of No. 1 white Bombay wheat containing not less than 85 per cent. of soft white club wheat, and not more than 12 per cent. of soft and hard red, nor more than 3 per cent. of dirt, seeds and grain other than wheat.

This resolution having been brought to the notice of your Committee they deemed it desirable to discuss it in conjunction with a full meeting of the members of the Chamber most largely interested in the trade; and on 9th April a meeting was held at which the following gentlemen were present:—

The Honorable F. FORBES ADAM, C.I.E., in the Chair.
H. W. ULOTH, Esq., P. & O. S. N. Co.
A. F. SIMPSON, Esq., New Oriental Bank.
Major W. S. S. BISSET, R.E., C.I.E., B. B. & C. I. Railway.
A. PALLIS, Esq., M. SCOULOUDI, Esq., } Messrs. RALLI BROTHERS.
A. F. BEAUFORT, Esq., Messrs. LYON & Co.
H. C. WRIGHT, Esq., The Bombay Company, Limited.
W. M. MACAULAY, Esq., J. M. RYRIE, Esq., } Messrs. EWART, LATHAM, & Co.
W. LANG, Esq., Messrs. LANG, MOIR, & Co.
L. BERGL, Esq., Messrs. DREYFUS, & Co.
J. STEINER, Esq., Messrs. VOLKART BROTHERS.
P. LEUTHARDT, Esq.
W. A. BANKIER, Esq., Messrs. FINLAY, MUIR, & Co.
L. R. W. FORREST, Esq., R. L. STEWART, Esq., } Messrs. KILLICK, NIXON, & Co.
VIZBUCANDAS ATMARAM, Esq., Messrs. NARANDAS RAJARAM & Co
H. W. PATRICK, Esq., Messrs. SAMUEL SANDAY & Co.
R. A. WILLIS, Esq., Messrs. C. H. B. FORBES & Co.
R. S. CAMPBELL, Esq., Messrs. W. & A. GRAHAM & Co.
J. FACHIRI, Esq.

As the result of a somewhat prolonged discussion the following resolutions were passed:—

I. That the refraction on "choice" and No. 1 club wheat shipped to Liverpool shall be fixed at not over 2 per cent.

II. That the admixture shall not exceed in "choice" 6 per cent. of other than soft white, and in No. 1, 13 per cent. of other than soft white.

III. That a copy of the resolutions passed to-day be sent to the London Corn Trade Association by the Chamber, adding that as shippers are anxious to improve the quality of Indian wheat they hope the London Association will be willing to limit the refraction on Bombay wheat to 2 per cent

In accordance therewith the Committee addressed the Liverpool Corn Trade Association and the London Corn Trade Association respectively. The former replied that in order to meet the views of this Chamber the Directors had adopted the following analysis as the basis of the Liverpool standards of Bombay wheat:—

For CHOICE WHITE BOMBAY WHEAT.

Not less than 93 per cent. of soft white club wheat.
Not more than 5 per cent. of soft red and hard wheat.
Not more than 2 per cent. of dirt, seeds and grain other than wheat.

For No. 1, BOMBAY WHEAT.

Not less than 85 per cent. of soft white club wheat.
Not more than 13 per cent. of soft red and hard wheat.
Not more than 2 per cent. of dirt, seeds and grain other than wheat.

They did not, however, see their way to reduce the per-centage of white wheat in the standard of "choice," more especially as contracts had already been made on the basis of 91 per cent. of white wheat.

The London Corn Trade Association did not apparently perceive the necessity of adopting this Chamber's suggestion, their reply being to the effect that as no demand had been made on the part of buyers to alter the terms of the existing form of contract for Indian wheat, and as there was also a difference of opinion on the subject on the part of sellers, the Committee of the Association did not see their way to carry out the resolutions of the Bombay Chamber.

Your Committee cannot but regret that their efforts to obtain a legitimate basis for the trade have thus proved practically unavailing, convinced as they are that the only sure means of improving the cleanliness of the wheat shipped from this country is for buyers in Europe to insist upon getting a cleaner article. Shippers could with little difficulty comply with any reasonable standard of cleanliness, but so long as home consumers are willing to contract for wheat containing a certain per-centage of refraction to ship anything better would mean so much absolute loss.—(Appendix X.)

5.

CIRCULAR of BOMBAY CHAMBER of COMMERCE to its MEMBERS, dated 15th March 1888.

I am directed by the Committee of the Chamber to circulate, for the information of members, and for the favour of opinion, the accompanying copy of a letter which has been addressed to a number of the firms interested in the wheat trade between Bombay and Liverpool.

If the conditions of the proposed terms of contract are not such as commend themselves to exporters from this side, the Committee will be prepared to make a representation on the subject to the Directors of the Liverpool Corn Trade Association.

6.

LIVERPOOL CORN TRADE ASSOCIATION to BOMBAY CHAMBER OF COMMERCE, No. 123, dated 15th February 1888.

DEAR SIRS,—I am instructed to hand you the annexed copy of a resolution adopted at a recent meeting of the Standards Committee of this Association, and to ask whether, in the event of its being confirmed by my Directors, you would be prepared to make contracts on the basis indicated by the resolution.

COPY OF RESOLUTION.

"That no standard of choice or No. 1 white Bombay wheat be made up for the coming season, but that the words 'Liverpool Standard,' as applied to these descriptions, shall mean—

(*a*) *In case of Choice White Bombay*—Wheat containing not less than 93 per cent. of soft white club wheat, and not more than 4 per cent. of soft and hard red, nor more than 3 per cent. of dirt, seeds and grain other than wheat; and

(*b*) *In the case of No. 1 White Bombay*—Wheat containing not less than 85 per cent. of soft club wheat, and not more than 12 per cent. of soft and hard red, nor other than 3 per cent. of dirt, seed and grain other than wheat."

7.

BOMBAY CHAMBER OF COMMERCE to LONDON CORN TRADE ASSOCIATION, dated 20th April 1888.

Co-operation of London invited.

DEAR SIR,—At a general meeting of the representatives of firms engaged in the export wheat trade from Bombay, held under the auspices of the Chamber on the 9th instant, the following resolutions were adopted as the basis on which future contracts should be made for wheat shipped to

Liverpool; and I am directed by the Committee of the Chamber to await upon you with copies of these resolutions and at the same time to add that as shippers from Bombay are anxious to improve the quality of Indian wheat, they hope your Association will be willing to join the Liverpool Trade in limiting the refraction on shipments from Bombay to 2 per cent.

RESOLUTIONS.

I.—That the refraction on "choice" and No. 1 club wheat shipped to Liverpool shall be fixed at not over 2 per cent. Revised Bombay standard.

II.—That the admixture shall not exceed in "choice" 6 per cent. of other than soft white, and in No. 1, 13 per cent. of other than soft white.

III.—That a copy of the resolutions passed to-day be sent to the London Corn Trade Association by the Chamber, adding that as shippers are anxious to improve the quality of Indian wheat they hope the London Association will be willing to limit the refraction on Bombay wheat to 2 per cent.

8.

BOMBAY CHAMBER OF COMMERCE to LIVERPOOL CORN TRADE ASSOCIATION, dated 20th April 1888.

SIR,—I am directed by the Committee of the Chamber to wait upon you with copies of resolutions passed at a meeting of firms interested in the export wheat trade from Bombay, held under the auspices of the Chamber, to discuss the proposals regarding standards, accompanying your Circular letter of 15th February. My Committee trust that the Directors of your Association will see their way to adopt the slightly modified terms which have been approved by the trade here. The only differences from the basis which your Association has laid down consists in "choice" being allowed an admixture of 6 per cent. of other than soft white in place of the 4 per cent. soft and hard red proposed by you; and in the case of No. 1, 13 per cent. of other than soft white in place of 12 per cent. of soft and hard red, the refraction in both qualities to be 2 per cent. instead of the 3 per cent. proposed. The general feeling of the trade here is that with these alterations business would be much more practicable than on the per-centages suggested by your Association, and the reduction in the refraction would have the tendency to produce a cleaner article, which there seems little doubt is obtainable here if a proportionate price can be got for it from buyers on your side. Acceptance of above solicited.

9.

LONDON CORN TRADE ASSOCIATION to BOMBAY CHAMBER OF COMMERCE, dated 11th May 1888.

DEAR SIR,—I beg to acknowledge receipt of your favour of the 20th ultimo, which has been laid before the East Indian Grain Committee, and the members, having given your request full consideration, direct me to say, in reply, that as no demand has been made on the part of the buyers to alter the terms of the existing form of contract for Indian wheat, and as there is no difference of opinion on the subject on the part of sellers, the Committee does not see its way to carry out the resolutions adopted by your Chamber of Commerce. Refusal of London Corn Trade Association.

10.

LIVERPOOL CORN TRADE ASSOCIATION to CHAMBER OF COMMERCE, Bombay, dated 12th July 1888.

DEAR SIR,—I am instructed to inform you that your letter of 20th April has been carefully considered by my Directors, and that in order to meet your views as far as possible, they have adopted the following as the analysis of the Liverpool standards of Bombay wheat:— Standards finally adopted by Liverpool.

(*a*)—*For Choice White Bombay Wheat*—

Not less than 93 per cent. of soft white club wheat;
Not more than 5 per cent. of soft red and hard wheat, and not more than 2 per cent. of dirt, seeds and grain other than wheat; and

(*b*)—*For No. 1 Bombay Wheat*—

Not less than 85 per cent. of soft white club wheat;
Not more than 13 per cent. of soft red and hard wheat, and not more than 2 per cent. of dirt, seeds and grain other than wheat.

They do not see their way to reduce the per-centage of white wheat in the standard of "choice," more especially as contracts have been made on the basis of 94 per cent. of white wheat.

APPENDIX B.

ABSTRACT of a Series of Notes interchanged in 1886 between two gentlemen interested in the trade.

Causes of impurities and remedies.

"A"—Shipment of pure wheat depends on the Associations at home. They fix the standard on first samples of the season, and any cleaner parcels sent subsequently sell at a loss.

Cleaning depôts are impracticable on the score of expense and for various other reasons. Cleaning down to 2 per cent. can easily be done with native appliances.

Introduction of improved seed is not repuired, but mixed wheat and barley sowings should be discouraged, as barley can only be separated by expensive machinery.

Calcutta shippers make their profit on the refraction, and have fixed 5 per cent. refraction in their own interest. The Calcutta Chamber's contention that it is cheaper to ship dirty wheat than clean is unreasonable.

Export business cannot be carried on direct by up-country dealers in present state of trade arrangements.

"B"—agrees that cleaning depôts would be too expensive and difficult, and that buyers at home must take the initiative by lowering refraction, but doubts whether it would be wise for shippers to press for it at present.

Denies that profits are made by shippers out of the refraction; they more commonly lose on the deduction made at home.

However unreasonable it may appear, shipment of dirty wheat suits present conditions. Linseed is is shipped refracting 30 per cent., yet the trade has gone on and improved. When the miller finds it cheaper to get clean wheat than to clean it himself, the trade will right itself without Government interference. At present millers make no demand for cleaner wheat.

Government should improve railway arrangements.

"A"—Linseed cannot be cleaned below 3 per cent. and 5 per cent., and the bulk of the trade (which is small in comparison with wheat) is done on this standard. Wheat can be easily cleaned to 1 per cent. or 2 per cent.; and to clean it would reduce the cost of wheat landed in the English market.

Had proof [apparently the voluntary admission of some Calcutta shippers] some years ago of profits made by Calcutta buyers by charging up-country dealers with excess refraction on wheat which passed in London as below guarantee. All up-country dealers complain that the Calcutta shippers do not deal fairly in the matter of refraction, and that much bribery and corruption goes on among subordinates in adjudging the quality of consignments.

Up-country dealers advocate a reversion to the old rule of the East Indian Railway limiting special class rates to large consignments; so that the consignments might be concentrated at trade centres before despatch to the port. The present arrangements extending low rates to small consignments has scattered the trade and made it difficult of supervision, although reducing cost of carriage.

An independent body of judges for wheat and seeds is much needed at Calcutta. The Calcutta Wheat Association have not the confidence of up-country dealers.

"B"—The statement as to the linseed trade is inaccurate. The bulk of the shipments to Liverpool are now on a 30 per cent. basis. American shipments have risen from a 3 per cent. to a 4 per cent. or 5 per cent. basis. London buyers contract on a 4 per cent. basis, and will not give credit for anything under, though they used to at one time. Formerly the bulk of the seed sold on a 4 per cent., 2 per cent. and 2½ per cent. basis, and this might be done again if buyers were agreeable; but lhey are not, and the case is a good illustration of buyers preferring a dirty article. Last year the shippers refused a new contract because the crushers refused to buy on a basis of purity. The seed trade is of more importance than wheat to Calcutta, and has prospered in spite of the refraction system.

In the case of wheat, "experience has shown that the bulk of this produce available for shipment "cannot be procured under 5 per cent. refraction. In April and May the refraction of the greater "portion of wheat received is about 4 per cent., in June and July 5 per cent. and 6 per cent., and "from August onward from 6 per cent. to 9 per cent." Deliberate adulteration does not exist to any extent. The refraction found in wheat consists of—1st, dirt; 2nd, peas gram, barley, straw, &c., 3rd, shrivelled grains; and (after July) 4th, weevilled grains. After 1st August shippers have to buy at 6 per cent. on account of weevils, because sellers (in India) insist on it.* No good can result at present from lowering the rate of refraction; it would only lead to increased wrangling, and dealers cannot afford to use expensive cleaning machines, while millers in England have devised machinery for handling it properly. Any freight saved on dirt would be more than swallowed up by cost of cleaning, so that argument is as broad as it is long.

Up-country dealers have nothing to do with the loss or gain in connexion with refraction of Calcutta shippers in their dealing with home buyers. They contract with the shippers on a 5 per cent. basis and up to 7 per cent.; if the consignment be over that it may be refused. Shippers deal with consignments from all parts of the country, and in some cases make, and in others lose, on the refraction at home; but that is no concern of the up-country seller. Any firm depending on refraction for its profit would soon fail.

Dishonesty at Howrah is admitted, but it is the shippers whose sircars are bribed who suffer. The allegation that shippers instruct their agents to get an unfair advantage of sellers when the market is adverse is not accurate; and the remarks regarding the Calcutta Association are unjust. Formerly

* Roughly speaking from the begining of the season to end of May refraction consists of ⅓rd dirt, ⅓rd shrivelled and dead wheat, and ⅓rd other grains."

when there was a dispute as to quality the seller not infrequently bribed a broker to adjudicate in his favour by a promise of employment, and it was to prevent this that the present practice of arbitration was adopted. Buyers and sellers both draw a sample from the consignment in dispute and forward it to the Secretary to the Wheat Association, who appoints the arbitrators and communicates their decision. Neither buyer nor seller knows who the arbitrators are and *vice versâ*.

"Jalpani" and "Mugi," which an up-country dealer was, according to "A's" statement, charged at the rate of R6 per 100 tons, appears to be a kind of "dasturi" paid to Calcutta shippers or their agents.

The want of proper accommodation on the Bengal and North-Western Railway is much felt. Every consignment which came down during the rains was more or less damaged. Finally, if Government can get cultivators to produce their wheat free from admixture of other grains the speedy reduction of the standard of refraction is predicted.

"A"—Special machinery may be able to clean linseed down to 2 per cent. but more than 3 per cent. for bold and 4 per cent. for small cannot be done with appliances available up-country. Bombay shippers credit up-country dealers with refraction below guarantee, and it is much due to the fairer system on which business is done there as to its natural advantages that increasing quantities of linseed are going to Bombay.

It is true that the bulk of grain sent into the market by the cultivator and *bania* contains 5 per cent. admixture; but this is not due to defective appliances, but done deliberately to suit the refraction system. Barley cannot be sifted out in this country, but other seeds can at any large up-country market at a cost of 6 pies per maund. At Cawnpore some time ago thousands of tons of linseed received with 6 and 8 per cent. were cleaned down to 3 per cent. and 4 per cent., and it is much easier to clean wheat (peas and barley excepted).

There is no reason why a 2 per cent. refraction for wheat should cause more disputes than 5 per cent.

Up-country dealers insisted on a 6 per cent. refraction during the weevil season, as they were not going to stand the loss on that account, and it would not pay to clean large quantities simply to remove 1 per cent., but dealers would be ready to clean down to 2 per cent. if buyers were prepared to give a better price.

Cases have occurred where the Calcutta test has shown the per-centage of impurities to be greater than the test applied in London, and the Calcutta shippers have made an unfair profit. If native sircars are unreliable, European assistants should be employed at Howrah. The English import firms are understood to be connected with the Indian export houses, and it is in their power, if it were their interest, to demand cleaner wheat. Comparatively pure wheat would and could be supplied at a cost over present rates not exceeding half an anna per maund for the labour employed in cleaning the grain, and the value of the loss in weight caused by the removal of impurities.

The bad arrangements on the Bengal and North-Western Railway are notorious, but the Calcutta Chamber should represent the matter to the London Board of the Company.

APPENDIX C.

1.

From VISCOUNT CROSS to the GOVERNMENT OF INDIA, No. 128 (Revenue), dated 26th December 1889.

In continuation of my Despatch No. 116 (Revenue) of the 28th ultimo, enclosing a copy of a letter, with its accompaniments, from Mr. James Smith, relating to the introduction of corn elevators into India, I herewith forward a copy of a letter of the 27th idem, on the same subject, received from Mr. John McDougall, and also a copy of a letter, with its enclosure, of the 14th November last, received from the London Corn Trade Association, reporting the action taken by them in concert with the Liverpool Corn Trade Association in establishing a revised reference standard of purity for Indian wheats, which they hope will lead to an improvement in the quality of the grain imported from Calcutta, Bombay, and Karachi into the United Kingdom.

2. It is desirable to give the widest official publicity to this communication Mr. McDougall's letter, while dealing with the new standards of the London and Liverpool Corn Trade Associations, will be chiefly useful in connexion with the proposals made by Mr. James Smith, already before your Excellency's Government.

2.

From JOHN MCDOUGALL, ESQ., to the SECRETARY OF STATE FOR INDIA, dated 27th November 1889.

I have the honour to inform Your Lordship that the London and Liverpool Corn Trade Associations have (after considerable discussion) come to an agreement in reference to the terms of contract regarding impurities in Indian wheats.

New standard London Corn Trade.

They have had the average samples of the 1888 crop tested, and the results show the impurities to be somewhat higher than the analysis I made of the 1887 crop for Your Lordship.

Having divided the total shipments of the year into two portions, *viz.*, the *ante*-monsoon (new crop to 30th June) and *post*-monsoon (1st July to the end of the season), the average impurities have then been taken as the limit that will be allowed.

This will not in any way cause a higher standard of purity in Indian wheats. In fact, it allows a greater degree of impurity in the earlier shipments, although it may prevent the occasional shipment of parcels of gross admixture.

It is with extreme regret that I report this lame result of all that has been done by the India Office in the endeavour to encourage the merchants and millers of the United Kingdom to demand a higher standard for Indian wheats, and I would suggest that attention should now be given to what may be done in India.

The great facilities provided in America and South Russia for the cheap stowage and transit of grain has been most beneficial to the development of their immense trade.

In the United States and Canada elevators are erected at almost every railway station in the neighbourhoods where grain is produced. This not only provides for cheap stowage, but also for the grading into standards, qualities, and the issuing of warrants, which enable the holder to readily sell his parcel of grain without the necessity of carrying or showing samples.

At a railway or other depot an elevator is erected, its capacity being regulated by the necessity of the neighbourhood. An official is appointed with the necessary standard samples for comparison. The farmer instead of having to erect a barn or store, takes his grain to the elevator, where it is received, classified, and stored, and a warrant given him stating the quantity and quality; and he can then go to his market, sell or hold as he may see best, or he may get an advance from his banker or merchant on the security of his warrant. The official is responsible to deliver the quantity of wheat, &c., of equal quality, but not necessarily the exact wheat that was delivered to him.

In America the wheat trade is all done in bulk, labour being very costly, and elevators of great capacity are used.

In India nearly all the wheat trade is in bags, and labour being cheap, the need for machinery, &c., to save labour is not so necessary, and a floor space to gather together a few hundred tons, so as to make a fair average sample, would probably be all that would be required.

But the principle involved in having a public store where each parcel of wheat would be classified, and the issuing of warrants to avoid the showing of samples at market, would do much to cause the grower to take care in the harvesting and thrashing of his crop, so as to justify its being placed in the highest grade of its class.

I cannot advise as to whether this matter should be conducted by Government officials or by the agents of firms. If by the latter, there should certainly be no monopoly. But as the Government has so large an interest in the railways, it would probably be desirable that they should keep the handling of the grain in their own hands.

It would very soon be decided if it would be necessary to erect machinery for the cleaning of grain, and when the natives found a clear distinction made between clean and unclean grain, they would themselves soon find the means of producing clean grain.

I consider the question of pure wheat of such vital importance to India and also the labouring classes of the country, that I have no hesitation in submitting these suggestions to Your Lordship, and in asking your best consideration of them.

3.

LONDON CORN TRADE ASSOCIATION to the SECRETARY OF STATE FOR INDIA, dated 14th November 1889.

I have the honour of enclosing you copy of a letter which has been addressed by this Association to the Bombay Chamber of Commerce, the Calcutta Wheat and Seed Trade Association, and others connected with the trade, with regard to the "impurities" in Indian wheats.

I am requested to say that it will thus be seen that this Association has not been unmindful of the hope expressed by Your Lordship at the meeting last May at the India Office, that some endeavour should be made to reduce the "impurities" in Indian wheats.

4

LONDON CORN TRADE ASSOCIATION to the SECRETARIES, BOMBAY CHAMBER OF COMMERCE, to CALCUTTA WHEAT AND SEED TRADE ASSOCIATION, &c., dated 14th November 1889.

Action of London Corn Trade, new standard.

At a meeting held last May at the India Office, at the invitation of Viscount Cross, who took the Chair, it was felt that an effort should be made to improve, if possible, the "impurities" in Indian wheat. With this view this Association has had the standard samples of the various qualities of the crop of 1888 of Indian wheat analysed by Mr. Bernard Dyer, with results as per his report enclosed.

Taking into consideration the statement of the East Indian Wheat Committee of this Association which was read at the said meeting in reply to the reports and papers issued by the India Office, this Association, in conjunction with the Liverpool Corn Trade Association, have had several meetings

with a view to an improvement compatible with the exigencies of the trade here, and the actual condition in which wheat is grown and gathered in India; and it has been agreed by the two Associations that two reference standard samples shall be made up of each of the descriptions of wheat named in the annexed table, solely for the guidance of the East Indian Wheat Committee of this Association in making up the standards as to "impurities" only.

Ante-monsoon and *post*-monsoon reference standard samples will be made up, and the arrangement will come into force with the new crop of 1890.

It is hoped that this will lead to an improvement in the cleanliness of Indian wheat, and this Association trusts you will use your influence to bring about this much-to-be-desired result.

Description of Wheats.	Ante-Monsoon.		Post-Monsoon.	
	Impurities.	Of which may be dirt.	Impurities.	Of which may be dirt.
No. 1 Club Calcutta - -	4 per cent.	1½ per cent.	4½ per cent.	2 per cent.
No. 2 „ „ - -	4 „	1½ „	5 „	2 „
Hard Calcutta - - -	3 „	1½ „	3½ „	2 „
Soft Red Calcutta - - -	4½ „	2 „	5½ „	2¼ „
No. 1 Club Bombay - -	3 „	1½ „	3½ „	2 „
Red Club Bombay - - -	3 „	1½ „	3½ „	2 „
Soft Red Bombay - - -	3 „	1½ „	3½ „	2 „
Hard Red Bombay - - -	3 „	1½ „	3½ „	2 „
Hard White Bombay - -	3 „	1½ „	3½ „	2 „
Soft Red Delhi - - -	4 „	1½ „	5 „	2 „
Soft White Delhi - - -	4 „	1½ „	5 „	2 „
White Jubbulpore - - -	3 „	1½ „	3½ „	2 „
Atbara - - - -	3 „	1½ „	3½ „	2 „
Soft Red Kurrachee - -	5 „	1½ „	7 „	2 „
Soft White Kurrachee - -	5 „	1½ „	7 „	2 „

N.B.—Ante-Monsoon shall mean shipments of the New Crop to 30th June.
Post-Monsoon shall mean shipments from 1st July to remainder of the season's shipments.

With the exception of Soft Red and Soft White Kurrachee, when the period for these qualities shall mean shipments of the New Crop—
Ante-Monsoon to 30th September.
Post-Monsoon from 1st October to the remainder of the season's shipments.

No. 4.

ANALYSES of INDIAN WHEATS (*viâ* Canal) of the Crop 1888, by Mr. BERNARD DYER, B.Sc. (Lond.), F.I.C., F.C.S., F.L.S., Analyst to the Essex, Leicester, Devon, and West Glamorgan Agricultural Societies; the Notts and Sevenoaks Chamber of Agriculture, &c.; Official Analyst to the Association.

Month of Shipment.	CALCUTTA.										BOMBAY.											
	No. 1 Club.			No. 2 Club.	Hard.			Soft Red.			No. 1 Club.	Red Club.			Soft Red.			Hard Red.			Hard White.		
	Barley, &c.	Dirt.	Total other than Wheat.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.
April - -	—	—	—	4·27	1·02	2·36	3·38	2·04	3·12	5·16	3·23	—	—	—	0·08	0·59	0·67	0·91	2·35	3·26	—	—	—
May - -	1·62	2·27	3·89	4·12	—	—	—	1·76	2·82	4·58	6·55	0·75	3·19	3·94	0·09	2·23	2·32	—	—	—	—	—	—
June - -	2·65	1·85	4·50	5·76	1·92	2·42	4·34	1·77	3·70	5·47	3·75	0·64	1·60	2·24	0·17	3·79	3·96	—	—	—	—	—	—
July - -	—	—	—	5·27	—	—	—	2·21	2·26	4·47	3·51	—	—	—	1·28	1·26	2·54	—	—	—	—	—	—
August -	2·38	2·18	4·56	5·66	1·05	1·18	2·23	2·77	1·95	4·72	3·84	—	—	—	—	—	—	—	—	—	—	—	—
September -	2·25	2·05	4·30	4·52	1·15	1·76	2·91	2·07	2·65	4·72	3·35	—	—	—	1·42	1·28	2·70	—	—	—	—	—	—
October -	—	—	—	4·84	0·94	1·51	2·45	1·81	3·10	4·91	3·23	—	—	—	—	—	—	0·18	2·61	2·79	0·26	2·76	3·02
November -	—	—	—	7·50	1·11	4·28	5·39	2·19	2·31	4·50	4·66	—	—	—	1·16	1·10	2·26	0·15	2·12	2·27	0·13	2·95	3·08
December -	—	—	—	4·96	—	—	—	1·49	3·24	4·73	3·38	—	—	—	—	—	—	—	—	—	0·15	2·60	2·75
January - -	—	—	—	4·30	—	—	—	—	—	—	2·76	—	—	—	0·24	5·33	5·57	—	—	—	—	—	—
February -	—	—	—	—	—	—	—	—	—	—	2·71	—	—	—	—	—	—	—	—	—	—	—	—
March - -	—	—	—	—	—	—	—	—	—	—	3·19	—	—	—	—	—	—	—	—	—	—	—	—
Average -	2·22	2·09	4·31	5·12	1·20	2·25	3·45	2·01	2·79	4·80	3·68	0·69	2·39	0·63	0·63	2·23	2·86	0·41	2·36	2·77	0·18	2·77	2·95

ANALYSIS OF INDIAN WHEATS—*cont.*

Month of Shipment.	KURRACHEE.						DELHI.						JUBBULPORE.			ATBARA.		
	RED.			WHITE.			SOFT RED.			SOFT WHITE.			WHITE.			——		
	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.	Barley, &c.	Dirt.	Total other than Wheat.
April	5·68	0·78	6·46	8·11	1·38	9·49	—	—	—	—	—	—	—	—	—	—	—	—
May	2·40	1·34	3·74	7·27	1·44	8·71	—	—	—	2·54	1·43	3·97	1·25	3·01	4·26	0·41	2·53	2·94
June	6·44	0·92	7·36	3·61	0·93	4·54	—	—	—	4·44	1·08	5·52	2·18	1·47	3·65	—	—	—
July	—	—	—	5·70	1·59	7·29	—	—	—	3·85	2·20	6·05	1·48	2·70	4·18	—	—	—
August	—	—	—	5·49	1·38	6·87	—	—	—	3·31	2·97	6·28	2·95	1·14	3·09	—	—	—
September	6·11	1·42	7·53	5·79	1·29	7·08	2·88	1·03	3·91	3·09	2·57	5·66	0·86	2·58	3·44	0·33	2·57	2·90
October	6·73	1·03	7·76	6·14	0·86	7·00	3·28	0·99	4·27	2·62	2·35	4·97	—	—	—	0·40	2·59	2·99
November	6·46	0·94	7·40	6·20	2·37	8·57	—	—	—	2·90	1·98	4·88	1·11	1·56	2·67	—	—	—
December	5·73	1·29	7·02	6·19	1·24	7·43	—	—	—	2·72	2·11	4·83	—	—	—	—	—	—
January	7·25	1·06	8·31	5·41	1·75	7·16	3·45	1·14	4·59	3·23	3·05	6·28	—	—	—	0·26	2·40	2·66
February	8·39	0·96	9·35	7·02	1·01	8·03	3·75	0·98	4·73	2·68	1·68	4·36	—	—	—	—	—	—
March	7·41	2·70	10·11	6·51	1·27	7·78	2·64	1·91	4·65	3·85	2·90	6·75	—	—	—	—	—	—
Average	6·26	1·24	7·50	6·12	1·37	7·49	3·20	1·91	4·41	3·20	2·21	5·41	1·64	2·08	3·72	0·35	2·52	2·87

N.B.—The term "Barley, &c." used above, includes all grain of intrinsic value, such as barley, oats, peas, linseed, &c. The term "Dirt" includes earth, chaff, and miscellaneous weed seeds.

17, Great Tower Street, London,
2nd October 1889.

BERNARD DYER,
Public Analyst.

5.

Nos. 220–225 C. 19-3, dated 31st January 1890.

Endorsed by the REVENUE AND AGRICULTURAL DEPARTMENT.

COPY of the Despatch No. 128, dated 26th December 1889, from the Secretary of State, and of its enclosures, forwarded to the Local Governments and Administrations noted below* for information, in continuation of Circular No. 122–127 C.—Agriculture, dated 6th instant.

No. 226 C.—19-3.

Copy forwarded to the Public Works Department for information, in continuation of Office Memorandum No. 129 C., dated 7th instant.

APPENDIX D.

1.

EXTRACT from the REPORT of the BOMBAY CHAMBER OF COMMERCE for the year 1889.

Summary of action taken 1889.

As the result of the agitation initiated by this Chamber in 1886, and consistently supported by His Excellency the Governor of Bombay, a conference of those interested in the question of the improvement in the cleaning of Indian wheat was held at the India Office on 8th May last under the auspices of Her Majesty's Secretary of State for India. At that conference a statement was read on behalf of the London Corn Trade Association which, in the opinion of your Committee, contained so many mis-statements both as to fact and theory, and was so misleading in purport, that they decided to address His Excellency the Governor on the subject, with the view of recording their protest against the arguments and figures used, and, if possible, leading to further action with the view of improving the cleanliness of Indian wheat. Owing, no doubt, to the promptitude with which the matter was taken up and discussed by your Committee, and the unanswerable character of their arguments, the London Corn Trade Association have so far modified their views that in a circular, dated 14th November, they have intimated that they had taken measures to get the various qualities of Indian wheat analysed, and as the result of that analysis had prepared a table showing the extent of impurities in the standard samples which the Association would recognise as allowable in shipments made before and after the monsoon. This table, however, so distinctly recognised a larger proportion of impurities than there was any necessity for doing, that your Committee

---

* Madras, Bombay, Bengal, North-Western Provinces and Oudh, Punjab, and Central Provinces.

addressed the London Corn Trade Association on the subject by the return mail, pointing out that in nearly every description of Bombay wheat, with the exception only of No. 1 Club and Red Club, the impurities allowed, even for *ante*-monsoon shipments, were in excess of the adulteration shown by their own analyses. This the Committee showed, simply amounted to recognising a standard of impurity in excess of existing conditions, and so far therefore from assisting the movement towards greater cleanliness would really be retrograde in effect. The Committee strongly urged the London Corn Trade Association to reconsider the subject and advocated a 2 per cent. refraction as one which would induce efforts being made to attain greater purity and one at the same time which would be perfectly attainable without the necessity of extensive mechanical appliances for cleaning purposes. To this communication there has not as yet been time for receipt of a reply, but the Committee trust that this matter will not be allowed to rest, and that future Committees will continue to agitate for the introduction of a basis of contract which will ensure Indian wheats being exported in a cleaner and therefore more merchantable condition than has hitherto been the case.—(*Appendix* HH.)

2.

BOMBAY CHAMBER OF COMMERCE to the GOVERNOR OF BOMBAY, dated 14th June 1889.

Protest against London Corn Trade statements at India Office Conference.

MY LORD,—Sensible of the active interest you have always taken in, and the efforts you have made to, aid the development of the wheat trade of this port, the Committee of the Chamber of Commerce take the liberty of addressing you regarding the conference on the subject of impurities in Indian wheat held at the Indian Office on 8th May, a report of which, although not yet officially published, Your Lordship has doubtlessly observed in the public press.

From a perusal of the proceedings it is apparent that the adoption of a proposal—which originally emanated from this Chamber—that all arrival contracts made in England for the sale of Bombay wheat should be based on a refraction of not exceeding 2 per cent. of dirt and other impurities was not carried owing to the opposition of the London Corn Trade Association, who stated their objections in a paper of some length, but of which, for the purpose of this letter, it will be sufficient to quote only the concluding summary of reasons. These, for convenience of reference, my Committee have numbered has follows:—

(1) Seeing, therefore, that the natural condition at present of Indian wheats is to contain about 4 per cent. of admixture on the Bombay side and 5 per cent. on the Calcutta;
(2) That, under the circumstances, it is not practicable to induce the Indian shippers to change their system of purchasing, and instead of buying on the above natural refractions, to introduce an artificial basis of a 2 per cent. refraction;
(3) That buyers, *practically*, are not prepared to pay a proportionately higher price for cleaner wheats;
(4) That the system of selling of analysis here is altogether impracticable and unadvisable;
(5) That the conditions of the Indian wheat trade although slowly are gradually improving;
(6) That India ships all her wheat available for export year by year;
(7) And that her development—in this branch at least—is not prevented by the present condition of wheats;
(8) That interference of Government in questions of contract as between seller to buyer is unadvisable—
(8) Our opinion is that it is not advisable or desirable to try and force sudden and radical changes in the natural condition of a trade; but that it is preferable to let the improvement come gradually out of the trade itself, taking it for granted that merchants, sellers, and buyers, shippers, and consumers, &c., are too keenly alive to their interests to allow any opportunity for improvement in their trade, when such becomes advisable, to pass by.

Were the Committee addressing only the members of this Chamber, experts in the trade and practically familiar with its basis and conditions, it would be sufficient to point out that these reasons are one and all contrary to ascertained facts and experience, and that the conclusions drawn from them are necessarily erroneous and misleading. But that the arguments of the London Corn Trade Association may not find official record without criticism, my Committee deem it desirable to deal with each separately, though as concisely as possible—

(1.) The statement that the natural condition at present of Indian wheats is to contain about 4 per cent. of admixture on the Bombay side and 5 per cent on the Calcutta, is, so far as Bombay is concerned, absolutely incorrect, and, judging from the evidence officially collected, is equally erroneous as regards Calcutta. These figures no doubt represent the admixture as shipped—practically under the compulsion of the objectionable form of contract maintained by the London Corn Trade Association—but the Committee of this Chamber unhesitatingly assert that even under the primitive mode of preparation hitherto prevalent, and without special cleaning machinery, the natural condition of the bulk of Bombay wheats as they could be delivered by the farmers would show less than 2 per cent. of admixture.
(2) The misleading nature of reason (1) relegates this to the same position, but how it is open for the London Corn Trade Association to allege that "it is not practicable to induce Indian

shippers to change their system of purchasing" in face of the unanimous request of the entired body of exporters from Bombay that the trade should be based on a 2 per cent. refraction, my Committee are unable to explain.

(3) That buyers are not prepared to pay a proportionately higher price for cleaner wheats, may be partially correct, so far as speculators are concerned. For their purposes, no doubt, the widest form of contract giving purchasers the most limited possible power of rejection on the score of quality is the easiest to manipulate, but the replies received to the India Office circular of the 31st December 1888 afford most overwhelming evidence to the contrary from the millers of the United Kingdom, who must be regarded as the real or ultimate buyers.

(4) The proposal that 2 per cent. shall be the limit of admixture does not necessarily imply the analysis of every shipment, as practical experience enables experts to arrive at an exceedingly close estimate without the necessity of having recourse to exact analysis. But independently of this, if the Liverpool Corn Trade, who handle three fourths of the Bombay wheat imported into the United Kingdom, find no difficulty in adopting a 2 per cent. refraction, why should London find it impracticable to deal with one fourth? Moreover, the trade in Bombay itself, so far as future delivery contracts go, is entirely based on exact analysis which works well and without special friction.

(5) That the conditions of the Indian wheat trade although slowly are gradually improving is not an argument, even if entirely correct, strictly applicable to the real point at issue, but neither recent statistics nor the other reasons advanced by the London Corn Trade Association themselves bear this out. In relation to the latter, in fact, the statement embodies an obvious contradiction. If the conditions are gradually improving they are susceptible of further immediate and accelerated improvement which reason No. (2) says in effect they are not.

(6) That India ships all her wheat available for export year by year, is equally irrelevant. No statement to the contrary, so far as my committee are aware, has ever been advanced. What this Chamber of Commerce asserts as representing the wheat exporters of Bombay is, that India does so export but at less than the legitimate value of the produce, both by the lower average price which dirty as compared with clean wheat commands and also by the loss incurred in transporting and dealing with a large per-centage of dirt and other impurities, It is scarcely necessary to point out that the deficiency in value which thus ultimately accrues to the producer must tend to restrict production.

(8) Calls for no special remark from the Bombay Chamber of Commerce, as it has never advocated Government interference between buyer and seller in this connexion.

(9) To deal with the final conclusions arrived at by the London Corn Trade Association, my Committee are quite at one with them that it is not desirable to force sudden and radical changes on trade, but that it is preferable to let the improvement come out of the trade itself, taking it for granted that merchants, sellers and buyers, shippers and consumers, are too keenly alive to their interests to allow any opportunity for improvement in their trade —when such becomes advisable—to pass by. This the Committee of the Chamber venture to say, most accurately describes the character and origin of the movement for a modification of the terms of London arrival contracts in Indian wheats. The demand originates not in one section of the trade but from the majority, who are most deeply and vitally interested, the shippers who virtually also represent the producers on the one side and the ultimate buyers or consumers on the other. The objection to the improvement comes only from a minority of the middlemen, and it is not surprising if the character of this obstruction should have given rise in some quarters to suggestions of legislative interference. These suggestions, however, this Chamber has never countenanced, but still holds that Government have it in their power to enormously facilitate and benefit trade by collecting and furnishing information and affording means of discussion in matters of leading interest and moment to the general welfare of the country. It is notably so in this instance. As Your Lordship is aware, this Chamber addressed the London Corn Trade Association direct representing the advisability of altering the form of contract, so as to afford an inducement to improve the quality of wheat shipped from India. In declining to accept the suggestions of the Chamber the Association gave no reason for so doing, but their reasons having been evolved at a conference held recently under the auspices of Her Majesty's Secretary of State for India, the Committee of the Chamber trust Your Lordship may have an opportunity of recording these criticisms on them in the same quarter.

Thanking Your Lordship for the extreme courtesy and attention with which the representations of the Chamber on this and other subjects have hitherto been received, and venturing to hope that Your Lordship will continue unabated your interest in and exertions for the improvement in the quality of Indian wheat,

I have, &c.

F. FORBES ADAM,
Chairman.

JOHN MARSHALL,
Secretary.

3.

BOMBAY CHAMBER OF COMMERCE to the LONDON CORN TRADE ASSOCIATION, dated 6th December 1889.

DEAR SIR,—I am directed by the Committee of the Chamber to acknowledge the receipt of your circular letter of the 14th ultimo, enclosing a tabulated statement of the result of analyses by Mr. Bernard Dyer of various descriptions of Indian wheat, and stating that it has been agreed by your Association, in conjunction with the Liverpool Corn Trade Association, that two reference standard samples shall be made up of each description of Indian wheat for the guidance of the East India Wheat Committee in making up standards as to impurities. You further annex a statement showing, my Committee presume—although your letter does not definitely say so—the extent of impurities which these standards shall be assumed to contain; and you conclude your remarks with the hope that this will lead to an improvement in the cleanliness of Indian wheat, and requesting the influence of this Chamber in bringing about this much-to-be-desired result. As this Chamber was the first to take the initiative in the endeavour to promote additional cleanliness in Indian wheat, you may rest assured that everything it can do will be done to promote that object. At the same time my Committee regret to say that they cannot consider the action of your Association likely to contribute materially to that end.

Further appeal to London Corn Trade Association.

I am directed to point out to you that, in the case of nearly every discription of Bombay wheat the extent of the impurities, which your standards are intended to recognise, considerably exceeds the result of Mr. Bernard Dyer's analyses. In other words, so far from the standards being likely to enforce greater cleanliness, they allow a margin for an increase per-centage of dirt and other impurities. This is very apparent from the following comparison showing, in the first column, the average total impurities as compared with the per-centage fixed:—

	Impurities as per analyses.	Proposed per-centages in ante-monsoon shipments.	Proposed per-centages in post-monsoon shipments.
No. 1 Club Bombay - - -	3·68	3	3½
Red Club Bombay - - -	3·08	3	3½
Soft Red Bombay - - -	2·86	3	3½
Hard Red Bombay - - -	2·77	3	3½
Hard White Bombay - - -	2·95	3	3½

You will perceive that, with the exception of No. 1 Club and Red Club, the average analyses give throughout smaller total quantity of impurities than the minimum allowed in your table for *ante*-monsoon shipments, which is surely an unnecessary margin to give.

My Committee are strongly of opinion that for *ante*-monsoon shipments at least the per-centage of impurities should not be fixed at over 2 per cent, as there can be no question that wheat can be easily cleaned down to that point, and, indeed, could now be bought easily, were there any inducement for shippers to adhere to that limit.

I am, &c.
JOHN MARSHALL,
Secretary.

4.

EXTRACT from the REPORT of the BOMBAY CHAMBER OF COMMERCE for the year 1890.

As mentioned in the last Annual Report, the previous Committee of the Chamber had carried on a vigorous correspondence with the representatives of the Liverpool and London Corn Trade Associations and the Government of Bombay, respecting the desirability of raising the standard of cleanliness in contracts for Indian wheat at the ports mentioned. The Liverpool Association, as already reported, made no difficulty about meeting the views of this Chamber, but, in London, after a series of analyses, a table was prepared by the Corn Trade Association which, this Chamber considered, allowed a much heavier refraction on Indian wheat than the actual condition warranted. The Committee accordingly represented their views to the London Association in December 1889, and it was not until February 1890 that any reply was received. In their letter, the Committee regret to say, the London Corn Trade Association state that after having carefully considered the question of impurities in the various kinds of Indian wheats, and after hearing the evidence of sellers and buyers, they did not see their way to move further in the matter at present. There seems very little hope, therefore, of any advance being made in this important subject for some time to come, as until buyers at home insist upon being supplied with the cleanest possible wheat, shippers from this side have no inducement to export anything superior in cleanliness than the refraction provided for the regular contracts current in the trade.—(*Appendix S.*)

Summary of action taken in 1890.

5.

LONDON CORN TRADE ASSOCIATION to the BOMBAY CHAMBER OF COMMERCE, dated 7th February 1890.

Refusal of London Corn Trade Association.

DEAR SIR,—I am directed by the Committee to acknowledge the receipt of your letter of the 6th December, and to state, in reply, that they carefully considered the question of impurities in the various kinds of Indian wheats, and after hearing the evidence of sellers and buyers, they did not see their way to go further in the matter of refraction at present.

EAST INDIA WHEAT.

PAPERS

RELATING TO THE

INTRODUCTION INTO INDIA

OF THE

SYSTEM OF GRAIN-ELEVATORS

IN VOGUE IN THE UNITED STATES OF AMERICA AND IN CANADA.

1890—91.

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INTRODUCTION INTO INDIA

OF THE

SYSTEM OF GRAIN-ELEVATORS

IN VOGUE IN THE UNITED STATES OF AMERICA AND IN CANADA.

1890—91.

Presented to both Houses of Parliament by Command of Her Majesty.

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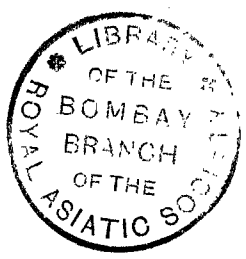

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CONTENTS.

Page

1. Government of India, to Local Governments and Administrations, No. 122–127 C., dated 6th January 1890.
   Forward, for early consideration and report, papers Nos. 3 to 5 - - - - - 7
2. Government of India, Revenue and Agricultural Department, to Government of India. Public Works Department, No. 129 C., dated 7th January 1890.
   Forwards papers 3 to 5, and requests that the opinion of the Railway Companies concerned may be obtained on the proposals for the formation of Grain-Elevator Companies - - - 7
3. Secretary of State for India, to Government of India, No. 216, dated 28th November 1889.
   Forwards papers Nos. 4 and 5, for consideration - - - - - - - 7
4. J. G. Smith, Esq., of Ritchie, Steuart & Co., to the Under-Secretary of State for India, dated 17th September 1889.
   Submits a memorandum by Colonel Filgate, R.E., and makes proposals for the formation of "Grain-Cleaning and Elevator Companies" for India - - - - - - 8
5. Memorandum by Colonel Filgate, R.E., on the proposed introduction into India of the American elevator system of handling wheat - - - - - - - - - 10
6. Government of India, Public Works Department, to Government of India, Revenue and Agricultural Department, No. 104 R. T., dated 1st May 1890.
   Transmits, for information, papers Nos. 7, 8, 9 and 10 - - - - - - 14
7. Officiating Consulting Engineer to Government of India for Railways, Central Division, to Government of India, Public Works Department, No. 477 T., dated 13th March 1890.
   Encloses letter from Chief Engineer, Bengal-Nagpur Railway, and submits his own opinion on Messrs. Ritchie, Steuart's proposals - - - - - - - - 14
8. Agent and Chief Engineer, Bengal-Nagpur Railway, to Consulting Engineer for Railways, Central Division, No. 2166, dated 8th March 1890.
   Transmits correspondence received from his Board on the subject of starting the elevator system in India - - - - - - - - - - - - 16
9. Major Le Breton, to Managing Director, Bengal-Nagpur Railway, dated 17th September 1889.
   Solicits the co-operation of the Company in a scheme for introducing grain-elevators - - 16
10. Managing Director, Bengal-Nagpur Railway Company, to Major Le Breton, dated 11th October 1889.
    States their willingness to co-operate - - - - - - - - 17

MADRAS.

11. Government of Madras, to Government of India, No. 1323, dated 24th February 1890.
    Reports that the scheme does not call for consideration in the Madras Presidency, where the area under wheat is small - - - - - - - - - 17
12. Madras Chamber of Commerce, to Government of Madras, dated 7th February 1890.
    Submits opinion on Mr. Smith's scheme; deprecates grant of guarantee asked for - - 17
13. Proceedings, Board of Revenue, Madras, 411, Miscellaneous, dated 29th January 1890.
    States that the scheme does not affect the Madras Presidency - - - - - 18

BOMBAY.

14. Government of Bombay, to Government of India, No. 7197, dated 9th October 1890.
    Forwards reports of officers consulted; doubts whether the scheme would be successful, and considers that it should be dealt with as a mere trading venture - - - - 18
15. Bombay Chamber of Commerce, to Government of Bombay, dated 19th February 1890.
    States that opinions are adverse to the proposal - - - - - - - 19
16. Karachi Chamber of Commerce, to Government, Bombay, dated 28th February 1890.
    Consider the scheme desirable, but the guarantees asked for unduly advantageous - - 20
17. Political Agent, Kolhapur and South Mahratta Country to Government Bombay, No. 141, dated 2nd April 1890.
    Reports that the scheme is unsuited to present conditions of Kolhapur and South Mahratta Country States - - - - - - - - - - - 20
18. Political Agent, Kathiawar, to Government, Bombay, No. 367, dated 10th April 1890.
    States that the limited quantity of wheat grown for foreign markets in Kathiawar makes the subject of small importance - - - - - - - - - - 20
19. Acting Commissioner, Southern Division, to Government, Bombay, No. 1,268, dated 20th April 1890.
    Considers that the scheme might be beneficial, but no monopoly should be given - - 21
20. Commissioner, Northern Division, to Government, Bombay, No. 1,246, dated 22nd April 1890.
    Forwards replies of Collectors of Districts - - - - - - - - 21
21. Collector, Ahmedabad, to Commissioner, Norther Division, No. 478, dated 24th February 1890.
    Reports that grain-elevators are needed but should be provided by private enterprise - - 22

Page

22. Collector, Kaira, to Commissioner, Northern Division, No. 1479, dated 19th March, 1890.
Would limit Government assistance to the free use of a site for a term of years - - - 22

23. Collector, Panch Mahals, to Commissioner, Northern Division, No. 681, dated 24th March, 1890.
States that introduction of grain-elevators into the Panch Mahals at present would do more evil than good. - - - - - - - - - - - - 22

24. Assistant Collector, Panch Mahals, to Collector, Panch Mahals, No. 161, dated 24th February 1890.
Considers the establishment of the proposed Company one of the greatest benefits that could be conferred upon India, but would not grant all the guarantees asked - - - - 23

25. Collector, Broach, to Commissioner, Northern Division, No. 543 R., dated 10th March 1890.
Is of opinion that if a monopoly is given charges should be strictly controlled - - - 24

26. Memorandum by Acting Commissioner in Sindh, dated 7th May 1890.
Considers that Government should not intervene in the scheme which should be left to trade enterprise - - - - - - - - - - - - 24

27. Director, Land Records and Agriculture, Bombay, to Government, Bombay, No. 755, dated 12th May 1890.
Is of opinion that the scheme should be tried first at the shipping ports - - - - 25

28. E. R. Calthrop, Esq., Agent Indian Light Railways, Limited (London) etc., to Director, Land Records and Agriculture, Bombay, dated 7th April 1890.
Comments in detail on Messrs. Ritchie, Steuart's proposals and supports them subject to certain conditions - - - - - - - - - - - - 26

29. Commissioner, Central Division, to Government, Bombay. No. 2411, dated 31st May 1890.
Is opposed to several of the concessions demanded - - - - - - - 28

30. Collector, Khandesh, to Commissioner, Central Division, No. 1267, dated 22nd February 1890.
States that the Company would be very useful but the demands for assistance from Government are excessive - - - - - - - - - - 29

31. Memorandum by K. A. Jopp, Esq., Acting Secretary to Government, Bombay, Public Works Department.
Summarises the opinions of Railway Companies consulted - - - - - 30

32. Agent and Chief Engineer, Southern Mahratta Railway, to Consulting Engineer for Railways, Bombay, No. 6284—1764, dated 3rd March 1890.
Considers that the scheme should be supported within reasonable limits - - - 31

33. Traffic Manager, Southern Mahratta Railway, to Agent, Southern Mahratta Railway, No. 78536 G., dated 25th February 1890.
Highly approves of the proposed scheme - - - - - - - - 31

34. Agent, Great Indian Peninsula Railway Company, to consulting Engineer for Railways, Bombay, No. 24 I.—3082, dated 18th March 1890.
Explains his reasons for considering the scheme to be impracticable at present - - - 31

35. Secretary, Bombay Port Trust, to Consulting Engineer for Railways, Bombay, No. 2021, dated 7th May 1890.
States that, in the opinion of the Trustees, grain-elevators are not required on their property 32

36. Docks Superintendent, Bombay, to Secretary, Bombay Port Trust, No. 165, dated 7th April 1890.
Explains the facilities which already exist at the port for handling grain - - 32

37. Agent, Bombay, Baroda and Central India Railway, to Consulting Engineer for Railways, Bombay, No. 6663T, dated 29th May, 1890
States that the Company will be prepared to give all reasonable facilities for the introduction of grain-elevators - - - - - - - - - - 33

38. General Traffic Manager, Bombay, Baroda and Central India Railway, to Agent, Bombay, Baroda and Central India Railway. No. 7050, dated 18th February 1890.
Points out the difficulties in the way of the scheme - - - - - - - 33

39. Traffic Superintendent, Rajputana-Malwa Railway, to General Traffic Manager, Bombay, Baroda and Central India Railway, No. 757 H., dated 6th February 1890.
Considers the American system unsuited to India - - - - - - - 34

40. Traffic Superintendent, Rajputana-Malwa Railway, to General Traffic Manager, Bombay, Baroda and Central India Railway, No. 1679 H., dated 26th March 1890.
Reports the result of a Conference held at Agra with the Director, Agricultural Department, North-Western Provinces, to consider the scheme - - - - - - 35

BENGAL.

41. Government of Bengal, to Government of India, No. 2713—27, Agriculture, dated 31st July 1890.
Forwards a report on the scheme by the Director, Land Records and Agriculture, Bengal, and agrees in the conclusions arrived at by that Officer - - - - - - 36

42. Director, Land Records and Agriculture, Bengal, to Government, Bengal, No. 1603, Agriculture, dated 14th July 1890.
Submits reports by public bodies, firms, and individuals consulted: states that the preponderance of opinion is against the scheme: considers that it might be tried in a modified form and subject to certain conditions, at 15 selected stations, but doubts whether any success will be achieved till refraction system is altered - - - - - - - - - 36

43. Proceedings of a Conference between Director, Land Records, and Agriculture, Bengal, and certain wheat-exporting firms, dated 28th May 1890 - - - - - - - 46

44. Bengal Chamber of Commerce, to Director, Agricultural Department, Bengal, No. 386–90, dated 7th May 1890.
States that until clean wheat is in demand the scheme is not required; points out the effects of railway rules which favour small consignments and suggests an increase in the minimum limit for export produce from a waggon load to 50 tons - - - - - - - 49

Page

45. Calcutta Wheat and Seed Trade Association, to the Bengal Chamber of Commerce, No. 41H., dated 6th June 1890.
Consider that it is useless cleaning wheat while the Home Trade is indifferent on the subject - 50

46. Agri-Horticultural Society of India to Director, Agricultural Department Bengal, dated 3rd April 1890.
Discusses the scheme in its relation to cultivators - - - - - - - 50

47. Agri-Horticultural Society of India to the Director, Agricultural Department, Bengal, dated 5th June 1890.
Replies to questions regarding the adulterants used for wheat - - - - - 52

48. Vice-Chairman, Calcutta, Port Commissioners, to Director, Agricultural Department, Bengal, No. 318, dated 6th May 1890.
Considers the scheme unsuitable - - - - - - - - - - 53

49. Manager, Eastern Bengal State Railway, to Director, Agricultural Department, Bengal, No. 839 M., dated 26th April 1890.
States that elevators would not be required at up-country stations of the railway, the traffic in wheat and seeds being small - - - - - - - - - - 53

50. Manager, Tirhoot State Railway, to Director, Agricultural Department, Bengal, No. 2507, dated 19th April 1890.
Favours the scheme, but doubts its success - - - - - - - - 54

51. Manager, Nalhati State Railway, to Director, Agricultural Department, Bengal, No. 1812, dated 3rd May 1890.
Thinks the scheme deserving of encouragement - - - - - - - 54

52. Agent, East Indian Railway, to Director, Agricultural Department, Bengal, No. 5862, dated 14th May 1890.
Favours the introduction of elevators - - - - - - - - - 54

53. Traffic Manager, East Indian Railway, to Acting Agent, East Indian Railway, No. 2937, dated 25th June 1890.
Explains the present rules for minimum weight for export produce - - - - - 55

54. Ralli Brothers, to the Director, Agricultural Department, Bengal, dated 12th March 1890.
Having regard to the diversity in quality of Indian wheats doubt whether the elevator system would be successful - - - - - - - - - - - 55

55. Moran & Co., to the Director, Agricultural Department, Bengal, dated 7th May 1890.
Consider the scheme worthy of support - - - - - - - - 55

56. Anderson, Wright & Co., to the Director, Agricultural Department, Bengal, dated 12th March 1890.
Are of opinion that the American system is not wanted, but export of adulterated wheat should be penal - - - - - - - - - - - - - 55

57. Balmer, Lawrie & Co., to the Director, Agricultural Department, dated 7th May 1890.
Think the scheme deserving Government support - - - - - - - 56

NORTH-WESTERN PROVINCES AND OUDH.

58. Government, North-Western Provinces and Oudh, to Government of India, No. 149—1–590 A, dated 6th June 1890.
Agree with the Director, Agricultural Department, that all that the Elevator Company propose to do for the ryot the ryot can do for himself, and that the first thing is to establish a demand for clean grain for which purpose elevators might be erected at the ports - - - - 56

59. Director, Land Records and Agriculture, North-Western Provinces and Oudh, to Government, North-Western Provinces and Oudh, No. 1432, dated 15th April 1890.
States that for the scheme to be successful, the Company must undertake the handling and transport of grain from the local markets to the port, and remarks on the concessions that might be given - - - - - - - - - - - 57

60. Upper India Chamber of Commerce, to the Government of the North-Western Provinces and Oudh.
Supports the establishment of grain-elevators at the ports, but objects to the grant of any monopoly - - - - - - - - - - - - - 58

PUNJAB.

61. Punjab Government, to Government of India, No. 59, dated 24th March 1890.
Is unable to offer an opinion on the scheme till the concessions required are more clearly defined - 59

62. Director, Department of Land Records and Agriculture, to Punjab Government, No. 292, dated 26th February 1890.
Considers that every reasonable encouragement should be given to the scheme - - - - 59

63. Commissioner and Superintendent, Delhi Division, to Director, Department of Land Records and Agriculture, Punjab, No. 88, dated 8th February 1890.
Considers that the concessions should be limited - - - - - - - 60

64. Municipal Committee, Amritsar, to Director of Land Records and Agriculture, Punjab, No. 66, dated 10th February 1890.
Despairs of the success of the scheme unless the co-operation of large dealers is secured - 61

65. Punjab Government, to Government of India, No. 30 S., dated 26th May 1890.
Forwards further Reports - - - - - - - - - - - 61

66. Deputy Commissioner, Delhi District, to Director of Land Records and Agriculture, Punjab, No. 264, dated 27th February 1890.
Considers the scheme premature until a satisfactory understanding is come to on the subject of refraction - - - - - - - - - - - - 61

Page

67. Officiating Commissioner and Superintendent, Rawalpindi Division, to Director of Land Records and Agriculture, Punjab, No. 700, dated 8th March 1890
Is of opinion that the scheme should be left to establish itself - - - - - 62

68. Agent to Messrs. A. McHinch & Co., Ferozepore, to Deputy Commissioner, Ferozepore, dated 20th April 1890.
Does not think the scheme likely to secure the advantages claimed - - - - 62

69. Punjab Government, to Government of India, No. 130, dated 4th September 1890.
Forwards further reports - - - - - - - - - - 64

70. Director of Land Records and Agriculture, Punjab, to Punjab Government, No. 1332, dated 18th August 1890.
Forwards Nos. 71 to 74, and draws attention to the account of the system of artificial adulteration of wheat - - - - - - - - - - - 65

71. Commissioner and Superintendent, Jullundur Division, to Director of Land Records and Agriculture, Punjab, No. 2102, dated 4th August 1890.
Thinks that free sites might be granted, but that the other concessions asked for are scarcely reasonable - - - - - - - - - - - - 65

72. Copy of the Sub-Committee's Reports of the Ferozepore District Board.
Gives an account of the practice of adulterating wheat, and supports the proposals for establishing grain-elevators - - - - - - - - - - - 65

73. Copy of remarks on the memorandum of J. G. Smith, Esq., on the introduction of grain-elevators into India.
Comments in detail on the several concessions asked for - - - - - - 66

74. Deputy Commissioner, Ludhiana, to Commissioner and Superintendent, Jullundur Division, No. 206–1148, dated 28th June 1890.
Regards the scheme as open to the objections which attach to monopolies - - - 67

CENTRAL PROVINCES.

75. Chief Commissioner, Central Provinces, to Government of India, No. 4743–88S., dated 18th November 1890.
States that the reform of the Wheat Trade should be left to those interested in it, and that he is opposed to Government interference - - - - - - - - - - 68

76. Note by Commissioner of Settlements and Agriculture, Central Provinces, dated 23rd October 1890.
Is of opinion that clean wheat would be forthcoming if a demand existed, but to encourage the scheme certain concessions might be allowed - - - - - - - - - 68

77. Commissioner, Jabalpur Division, to Chief Commissioner, Central Provinces, No. 1162, dated 12th March 1890.
Forwards a summary of the replies of District Officers - - - - - - - 69

78. Commissioner, Narbudda Division, to Chief Commissioner, Central Provinces, No. 1717, dated 24th March 1890.
Considers that Government interference in the scheme would be a mistake - - - - 70

79. Commissioner, Nagpur Division, to Chief Commissioner, Central Provinces, No. 2958, dated 2nd May 1890.
Considers the concessions demanded by Mr. Smith preposterous - - - - - - 71

80. Deputy Commissioner, Wardha, to Commissioner, Nagpur Division, No. 900, dated 22nd February 1890.
Advocates the encouragement of the scheme by Government - - - - - - 72

81. Deputy Commissioner, Nagpur, to Commissioner, Nagpur Division, No. 1461, dated 10th March 1890.
Is of opinion that so long as grain in its present condition is in active demand there will be no scope for the scheme - - - - - - - - - - - 73

82. Deputy Commissioner, Chanda, to Commissioner, Nagpur Division, No. 787, dated 28th February 1890.
Considers that the scheme should be left to private enterprise - - - - - - 74

83. Officiating Commissioner, Chhattisgarh Division, to Chief Commissioner, Central Provinces, No. 1656, dated 25th September 1890.
Considers the scheme unsuited to the system on which the Indian Wheat Trade is carried on - 74

84. Deputy Commissioner, Bilaspur, to Commissioner, Chhattisgarh Division, No. 2597, dated 8th May 1890.
Thinks the scheme deserving of encouragement - - - - - - - - 75

85. Government of India Resolution No. 39, dated 20th October 1893.
Communicating orders on the scheme - - - - - - - - 76

APPENDIX A.

1. From the Secretary of State for India, to the Government of India, No. 7, dated 22nd January 1891.
Forwards communication from Mr. Pavy - - - - - - - - 79

2. Phillip Pavy, Esq., to Sir George Birdwood, dated 20th December 1890.
Communicates his views and suggestions on the points demanding inquiry and action in connexion with the Indian Wheat Trade - - - - - - - - - 79

3. Phillip Pavy, Esq., to Sir Charles Aitchison, dated June 1883.
Suggestions for improving the quality of Punjab wheat - - - - - - - 80

APPENDIX B.

The grain trade of the Caucasus and the future of Novo-Rossiesk - - - - 83

PAPERS

RELATING TO THE

INTRODUCTION INTO INDIA OF THE SYSTEM OF GRAIN ELEVATORS IN VOGUE IN THE UNITED STATES OF AMERICA AND IN CANADA.

1.

The GOVERNMENT of INDIA, to LOCAL GOVERNMENTS and ADMINISTRATIONS, Circular No. 122–127 C.—(Agri.), dated 6th January 1890.

Circular forwarding papers for opinion.

I am directed to forward, for information and consideration, the accompanying copy of a despatch and of its enclosure, received from Her Majesty's Secretary of State for India, relating to the formation of a Company for the introduction of grain-elevators into India.

2. His Excellency the Governor General in Council will, in the first instance, be glad to be favoured with the views of as to the encouragement which may properly be given to the Company, and I am to suggest that the opinions of the Directors of the Department of Land Records and Agriculture, the Chambers of Commerce and of other authorities, official or non-official, whom may think it advisable to consult may be obtained and forwarded to the Government of India with as little delay as possible.

2.

GOVERNMENT of INDIA, Revenue and Agricultural Department, to the SECRETARY to the GOVERNMENT of INDIA, Public Works Department, No. 129 C., dated 7th January 1890.

The undersigned is directed to forward, for information and consideration, a copy of a despatch,* and enclosure, received from the Secretary of State, relating to the formation of a Company for the introduction of grain-elevators into India, and to say that this Department will be obliged if the Public Works Department will obtain the opinion of the Railway Companies mentioned in page 3 of Mr. Smith's letter.

3.

From LORD CROSS, to the GOVERNMENT of INDIA, No. 116, dated 28th November 1889.

Forwards Mr. Smith's proposals for introduction of grain elevators.

I forward herewith a copy of a letter, and its enclosure, of the 17th September last, received from Mr. James G. Smith, of the firm of Messrs. Ritchie, Stewart & Co., Bombay, relating to the formation of a Company for the introduction of grain-elevators into India. It is unnecessary for me to dwell upon the very great importance of this matter; and I shall be glad to be furnished with the views of your Excellency's Government on Mr. Smith's proposals for State assistance to the Company, and on the subject of his letter generally. It is clearly impossible that the Government should assist the present project to the extent suggested in Mr. Smith's letter, but some aid might perhaps be given, and if your Government is disposed, as I presume it will be, to promote Mr. Smith's undertaking, I shall be ready to consider any recommendation that you may think fit to make.

2. I enclose, for your Excellency's perusal, a copy of the Board of Trade Journal for October 1889, in which, at page 399, will be found an account of the steps taken by the Russian Government to promote the erection of elevators along the lines of railway leading to Odessa.

* No. 116 (Revenue), dated 28th November 1891.

4.

JAMES G. SMITH, ESQ., of Ritchie, Stewart & Co., Bombay, to the UNDER-SECRETARY of STATE for INDIA, dated 17th September 1889.

I have the honour to inform you that I desire, in connexion with a few others, to form a "Grain Cleaning and Elevator Company" for India, and we beg the favour of your laying our representation before the Secretary of State in Council, who, we trust, may be pleased to afford us his support and assistance in the directions necessary.

We beg to invite a reference to the accompanying memoranda on the subject laid unofficially before you last month by Colonel Filgate, R. E., from which you will observe that our aim is to introduce into India a system of cleaning, grading, and handling wheat, based upon that universally adopted in the United States and Canada, and now being extended to other countries.

In putting the scheme before you we do not consider it necessary to recapitulate in detail the many valuable opinions recorded in favour of some such system, as we believe the Secretary of State to be fully acquainted therewith.

Objects of the scheme.

Our primary object is to clean and raise the grade of the grain received from the producer, and to prevent the subsequent adulteration of Indian wheat which now prevails. By this, among others, the following advantages should be gained:—

(1.) The improvement of the reputation of India as a wheat-growing country.
(2.) The extension and the improvement of the cultivation of wheat by the above, and by putting the business on a more satisfactory footing.
(3.) The improvement of the position of the producer by depriving others of the opportunities of mixing, carrying, and profiting by an adulterated or dirty sample which was subsequently, at considerable expense and trouble, to be brought to a clean state before it can be used.
(4.) The reduction of the expense of carrying and handling, by sea and by land.
(5.) Facilitating the storage, purchase, and sale of, or the borrowing and lending of money on, the grain crops.
(6.) Opening the trade to all acquainted with the markets as opposed to the present state, under which it is confined to grain experts, and to those who can or will pass off an adulterated article.

The effects which may be expected are:—

Benefits to be expected

(1.) Benefit to India as a wheat-producing country, in increasing the demand for, by removing the objections to, its produce.
(2.) Benefit to all concerned by putting the Indian wheat trade on a firmer and more satisfactory footing.
(3.) Benefit to the State and other railway owners from increased traffic due to a better demand for and extended cultivation of Indian wheat by relieving them of the custody of grain at stations, and by the more rapid loading, unloading, and release of their waggons.
(4.) Benefit to the trade generally in reducing charges for handling, &c.
(5.) Benefit to the Port Trusts in concentrating the traffic at the port storage elevators.
(6.) Benefit to the shipping in increased traffic and the more rapid loading of vessels.
(7.) Benefit to the trade by introducing more reliable samples of wheat.
(8.) Benefit to the consumer in supplying a pure and graded article.
(9.) Increased facilities for storing grain.
(10.) Increased facilities for dealings in wheat on documents.
(11.) Improvement in the position of the producer from the increased value of his product when cleaned and graded.

Concessions required.

That the proposed Company may start with reasonable prospects of success, it appears to us that the assistance of Government would be necessary in the following directions:—

(1.) Arrangements for the countersignature of certificates by Government officials.
(2.) The free provision of land for the Company's purposes, either within or adjacent to the railway and Port Trust premises, and connected with the lines by sidings.
(3.) A guarantee that similar facilities will not be afforded to a competing Company or individual for a term of 25 years.

(4.) That the grant of concessions as above extend to every grain-shipping port, and along every line of railway, built or to be built, through the grain-producing districts of the Indian Empire.

(5.) A guarantee of interest at the rate of 4 per cent. per annum for the first 5 years of the Company's operations, such advances being, however, repayable, without interest, from half of surplus profits in excess of 6 per cent.

The rights for which we would ask are as follows?—

(1.) To erect elevators, cleaning or other machines for the cleaning, grading, and storage of wheat at all ports and railway stations connected with the grain trade.
(2.) To levy charges (which may be under the control of Government) for the cleaning, grading, loading, and storage of grain.
(3.) To issue certificates for the grain under the Company's charge.
(4.) To act as agents for producers and others for the disposal of their grain.
(5.) To act as agents for merchants and others for the purchase of grain.
(6.) To make advances of money against grain held in the Company's elevators.
(7.) To advance money to the ryots on the security of their land, crops, &c.
(8.) To act generally as warehousemen, forwarders, shippers, and agents in all matters connected with the grain trade.
(9.) To charge for any or all of these conveniences to the trade according to usage, and subject to the control of Government.

Selections of stations.

The adoption of the scheme at starting in its entirety, even at a few stations, is we are inclined to think, a step too advanced for immediate consideration, and we would now propose that the first operations be conducted so as to disturb as little as possible the existing arrangements. In this view, we would propose to select a few stations on some of the principal grain-carrying railways, and to conduct thereat simple cleaning and grading operations, returning the grain into bags, properly secured, and covered by certificates as to the quantity and quality, thus discarding for the present the idea of the elevator proper.

In the English markets our efforts would be directed to securing a demand for the clean and graded article, and further development of the scheme would be dependent upon the results obtained. We have reason to believe that in the English grain centres, accustomed to the American system, the certificates above referred to will speedily receive the credit they deserve, and, so soon as they become recognised in the English markets and thus act to the benefit of the producer, the steady development of the scheme may be confidently anticipated.

The railways on which it is proposed to commence are—

The Great Indian Peninsula Railway,
The Bombay, Baroda, and Central India Railway,
The Bengal-Nagpur Railway,

these being contributory to the one shipping centre of Bombay, between which place and Liverpool the trade is considerable, while Liverpool is a port already accustomed to the American system of clean and graded grain.

The authorities of the above-named railways have been addressed, and, so far as at present ascertained, the scheme will be favourably received and supported by them.

The stations at which machinery is proposed to be erected will be selected in communication with the Companies.

It is probable that in all, some fifteen stations at the outset will be provided with cleaning, grading, and weighing apparatus and with some elevating machinery, all of which will have to be sheltered from weather by buildings sufficiently strong to withstand the vibration of the machinery, and constructed with some regard to their future uses.

The machinery may be worked by bullock or steam power, as circumstances may require. It appears to us that the undertaking will necessitate the sending to India of a few qualified men to commence, conduct, and instruct in the operations, but we would desire to avail ourselves of the assistance of the Railway Companies' staffs to the utmost extent possible.

Probable cost.

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We believe that the whole of the machinery required in the first instance is readily obtainable in England, and including freight, railway charges in India and other expenses we estimate its cost at	7,500
The buildings at fifteen stations, with cost of fittings and erecting machinery, would probably cost	10,000
The pay and allowances of staff, preparatory to the commencement of work, may be taken at	5,000
And preliminary and contingent expenses at	2,500
Making a total of	£25,000

Besides keeping the capital expenditure within the narrowest limits, it would be our object to keep down the working expenses and charges as low as possible. In the more advanced stages of the undertaking the charges to be made will, beyond doubt, be far more than covered by the saving in cost of handling, &c., but during the preliminary operations just described the charges for cleaning and grading must be reduced to a minimum, to be covered by the enhanced value of the clean grain, and still leave the ryot sufficient inducement to avail himself of the advantages afforded.

During this period of education and experiment, we can hardly expect the machinery to do more than pay the expenses of its working, but each subsequent step in advance should put our operations on a more satisfactory footing.

So soon as a demand for clean and graded wheat is secured in the United Kingdom a demand on the part of the producers or owners for the cleaning and grading of their wheat will certainly follow, and as this increases, so will the present scheme progress towards the erection of a complete system of elevators, and as success becomes assured on one or more lines of railway leading to one port, so will other lines of railway and other ports be supplied with similar advantages.

Guarantee of interest.

All extensions of operations involving expenditure beyond the amount of 25,000*l.* referred to in this paper, would be submitted for the sanction of the Secretary of State for India in such manner as he may direct, and we confine our present request for a guarantee of interest to a half-yearly payment, calculated at the rate of 4 per cent. per annum on the 25,000*l.* already indicated and on the subsequent sums sanctioned from date of such sanction, for a period of five years from that of the acceptance of the proposals which we have the honour to make.

The capital of a Company sufficiently important to deal adequately with the subject of our representation must necessarily be large, but at starting the amount to be called up would be limited to 25,000*l.* and during the continuance of the guarantee, further calls must be restricted to amounts necessary to cover extensions duly sanctioned.

5.

MEMORANDUM by Colonel FILGATE, R.E., on the proposed introduction into India of the American Elevator system of handling wheat.

The proposal to deal with Indian wheat after the manner, more or less modified, in which the wheat crop of the American continent is handled, under what is known as the Elevator System, is put forward in the belief that it will commend itself to those high authorities conversant with the present serious defects of the trade and interested in remedying them.

The promoters of this scheme believe themselves, as a body, to be cognizant with the Indian wheat trade as at present carried on, both in India and England, with the system in India of handling and adulterating the wheat, from the time of its growth until its sale in England, and with the American system, under which pure and graded wheat only is put upon the English market. They claim that their experience, supplemented by their study of the subject, both from the published views of high authorities (*e.g.*, Her Majesty's Secretary of State for India, the Government of Bombay, the Bombay Chamber of Commerce, the Association of British and Irish Millers, Sir E. W. Watkin, Mr. McDougall, and others), and from inquiries of others connected with the trade (as merchants and millers), puts them in a position to deal practically with the subject.

Before proceeding to describe the proposed undertaking, it is is desired to represent the advantages to be derived therefrom—advantages which will be shared by all except the middlemen, whose presence is considered the worst feature in the trade as it now exists. How Government is interested.

The Government in this matter may be likened to a large American Railway Company whose object it is to render most valuable, by cultivation or reputation, the lands in its ownership. It is due to this interest in the land and its produce, in America that the Elevator System has not only come into existence but has become universal and indispensable along the railroads of the wheat belt of the American continent, and so highly do the railways value the advantages of the system that, where the grain crop is the principal commodity the Companies decline to carry grain which has not been passed through the elevator. The advantages here indicated are that, by means of the elevator a perfectly pure and reliable sample is obtained directly it leaves the farmer's hands, and the reputation of the district is not risked by the producer being allowed to place upon the market grain which has not been subjected to this recognised process of cleaning and grading.

It must not be imagined that the farmer suffers from this apparent restriction in the forwarding regulations, for as he has found in practice it works entirely to his advantage as the superior cleaning machinery in the elevator raises the grade of the sample.

The advantages to the Government, as the possessor of land, as interested in the principal Indian railways, may be considered under those claimed in connexion with the transport of the grain. The railways concerned would be relieved of the responsibility and cost of receiving and guarding the wheat at their stations; as this would be done for them by the elevators, they would be relieved of the cost of loading and unloading their waggons, their rolling-stock would be more rapidly freed, and the fact of their carrying only the pure article would doubtless lead to their securing higher freights than when compelled to charge also for the conveyance of dirt. It should be added that when the carriage of grain in bulk is arrived at, the existing closed waggons (invariably used for the purpose in America) can be loaded and emptied by means of elevators in the space of a few minutes, no change whatsoever being therefore necessary in the waggon stock of existing railways.

To the various Port Trusts the proposed undertaking presents the advantage of concentrating the export grain traffic at the port storage and shipping elevators. By means of sidings the railway cars are run into these and instantaneously unloaded, while the ship to be loaded, when brought alongside, can receive its complement of grain in a few hours. Port Trust and Shipping.

The shipping interest is secured, in the first instance, like that of all others concerned, by the improved footing on which the grain trade is to be placed, but also in the more rapid and less costly loading of the vessels and by their being enabled to carry a greater quantity of grain in bulk than in bags. For this purpose the Atlantic steamers are usually fitted with bulkheads, the addition of which is no inconvenience and of little expense, the divisions so made being capable, as a rule, of holding 1,000 quarters of grain each.

The advantages to the producer are as follows: on delivery of his grain to the elevator it is cleaned, graded, and weighed, and a receipt therefor at once granted to him. This receipt may be held, sold, or transferred by him at his pleasure, it being negotiable in all banking transactions just as is a bill-of-lading or railway or warehouse receipt, and possessing the additional security that it represents a certified quantity of pure grain of a certain grade or grades. By this system it is further secured to the producer (or other owner of the wheat) that the proper value for his grain will be obtained, as it remains in the custody of the Elevator or Railway Company (as his agents) until placed on board ship. Advantage to producer.

Means are afforded to him of holding the grain so long as he likes until prices suit, the Elevator Company being responsible for its condition.

Grain ultimately deposited at the seaport storage elevator, is under this system, sold and resold on the American continent through the medium of the elevator receipts without delivery. The whole system as affecting the producer is one calculated to secure to him the maximum value of his product, and to encourage him to grow more and better grain year by year.

Turning to the trade generally, it is, on the face of it, a very unsound condition of things that a large per-centage of dirt should be carried from the Indian wheat fields to the English market, but what can be said of a policy which permits, in addition to Advantage to trade.

this, the existence of middlemen, who, for selfish ends, concoct mixtures which ruin the reputation of the country as one capable of producing good wheat? But this is not the only important evil done to the trade, for, under the existing circumstances, which lead to such mixtures becoming recognised samples, the business is necessarily confined to those who can or will pass off as Indian wheat upon the English markets a sample which just passes muster, and inflicts upon the miller a mixed and dirty article, tending to depress, year by year, the reputation of Indian wheat. That such men should oppose any such scheme as that suggested may of course be accepted at the start, but what is to their disadvantage in this matter reacts to the advantage of the producer, for the clean wheat, which is the basis of the trade, must necessarily suffer in price in proportion to the extent to which adulteration by middlemen is carried on.

As opposed to this, the Elevator System throws the trade open (thereby increasing competition) to all acquainted with the markets, although not necessarily grain experts, for they buy and sell on recognised certificates, which bear on the face of them the quality and quantity of the grain.

The trade also directly benefits by the saving of the charges which must necessarily be incurred in mixing and conveying dirt.

The proprietors of the proposed Elevator Company believe that, under certain favoured arrangements, which will be hereafter described, they can, by small charges for cleaning, grading, and storing wheat, secure to themselves a fair return on their outlay, and that the economy of the system will lead to their charges being covered many times over by the existing cost of handling, sampling, &c.

The undertaking may be commenced upon by selecting, in concert with Government, one line of railway for its operations, and these operations may be limited at the outset to a few favourable stations, at which wheat, after cleaning, might even be returned to the bags. In this manner the risk might be reduced to a minimum, until the demand for the pure article had been ascertained. In this connexion it must be borne in mind that, disregarding London for the moment, there are many important markets which demand clean wheat, and millers who protest against or refuse to take, except at low prices, the mixtures now offered to them, and so troublesome and expensive to them to clean and to separate.

If successful in finding a market for its cleaned and graded article (which success it has no reason to doubt), the Company would be prepared to extend its operations by the erection of elevators wherever deemed necessary, and to such a point as to secure that it will become a recognised institution as in America.

Government assistance and control.

The Company would be prepared to submit to the regulation of its charges by Government, and their first request would be that their cleaning and grading be so conducted to the satisfaction of Government that they would allow an officer, appointed by themselves, at each station to countersign the certificates issued by the Company, the Company undertaking to hold the Government harmless for the proper delivery of grain of the proper description. The promoters would stipulate for this, and be prepared to bear the cost of it, as at once placing them in a position above suspicion as to the value of their certificates. Possibly, this might be effected at first by local officers in addition to their duties.

The assistance required from Government in order to secure the formation of a Company of character and strength sufficient to deal with such a problem as this must take a form which will enable the Company safely to await the gradual development of the scheme. From the producer to the miller every one has, more or less, to be educated to the benefits of the system, and the proposed Company could not risk the undertaking of this education without some security that if so far successful, they would be freed from the immediate opposition of others who had not undertaken this initial trouble and expense, but were ready to take advantage of the opening secured.

The Company would require, as already stated, the assistance of Government officers in the matter of its certificates.

It would require land for the erection of its elevators both at the ports (on Port Trust land) and in or connected with the railway premises at each station where an elevator is to be erected.

The elevators would have to be connected with the railway lines by sidings. And it would require that similar facilities should not be afforded to a competing Company or to individuals for a term of say twenty-five years. These concessions to extend to every grain-shipping port, and along every line of railway built or to be built into or through the grain-producing sections of the Indian Empire.

The Company would also require that interest at the rate of 4 per cent. per annum be guaranteed by Her Majesty's Secretary of State for India on their paid-up capital during the first five years of their operations. Such advances to be repaid, without interest, from half of surplus profits earned by the Company in excess of 6 per cent. It is believed that the concessions asked for are reasonable and legitimate.

For over ten years now it has been recognized that the future of India, as regards its farming interests, depend upon the introduction of the Elevator System as applied to the American continent.

The grant of land by Government free to Companies calculated to work out a public benefit is not an unusual favour.

The grant of the exclusive privilege for a limited period is also similar to what has been secured to Railway Companies in the past by their contracts with Government.

The grant of a guarantee also, for so short a time as five years, is not unreasonable considering the State interests at stake.

The rights required by the Company would be much as follows:—

To erect elevators for the cleaning, grading, and storage of wheat at all ports and railway stations connected with the grain trade.

To levy charges, as authorized by Government, for the cleaning, grading, storage and loading of grain.

To issue certificates for the grain under their charge.

To act as agents for producers and others for the disposal of their grain.

To act as agents for merchants and others for the purchase of grain.

To make advances of money against grain held in the Company's elevators.

To advance money to ryots on the security of their land, crops, &c.

To act generally as warehousemen, forwarders, shippers, and agents in all matters connected with the Indian grain trade.

And to charge for any or all of these conveniences to the trade according to usage, and subject to the control of Government.

But the Company will not be permitted, under any circumstances, to act as merchants or owners of grain.

The details connected with the working of this scheme are numerous, important, and interesting, but it is probably not necessary that many of them should find a place here.

Elevators described.

An elevator may be seen at work at more than one place in England. It consists of a building of considerable height, and of varying floor space according to its capacity, the length invariably increasing with the latter. The "handling elevators" at the railway stations in America usually possess a capacity of from 30,000 to 40,000 bushels, and occupy a ground space of about 30 feet × 40 feet, and run to a height of from 60 feet to 75 feet. The "port storage elevators" run from 250,000 up to 1,000,000 bushels and over. The ground space occupied by these would be, say, 50 feet to 60 feet in width, and from 100 feet upwards in length according to capacity. The "first Russian grain elevator" recently erected was for a capacity of 275,000 bushels, and measures 63 feet × 128 feet, and is 82 feet high to the roof. It cost 214,000 roubles, which is probably 30 per cent. to 40 per cent. more than it would have cost in America.

The machinery in connection with an elevator consists of steam or other motive power, together with weighing, elevating, conveying, cleaning, separating, and fanning machinery. A good deal of information, including dimensions and prices, can be obtained about these in this country. It is believed that the "elevator" machinery generally has been brought to such perfection that, in spite of its simplicity, it performs its work with great efficiency, expedition, and economy, and is not liable to get into any serious disorder with ordinary care. In many out-of-the-way places, on the American frontier settlements, the elevators are hundreds of miles away from foundries or mechanical workshops.

Cost of working and charges.

The elevator in America is usually made of wood, but there is no reason why the building should not be of any other material. The cost of an elevator in America is usually calculated at its bushel capacity, including all appliances, and ranges from 25 cents per bushel for the smaller elevators to as little as 18 cents per bushel for the largest size of storage elevators. Elevators are frequently built on an undeveloped plan, and added to in length as their capacity requires to be increased.

The cost of working an elevator is comprised of the price of fuel, the salary of the manager, and the pay of a small number of "hands," varying from 2 to 12, according to the size of the elevator. The cost of fuel at the "handling" or up-country

elevators is considerably reduced by the fact that the weed seeds (often very abundant in oil) and other refuse, extracted in process of cleaning the grain, are made use of for this purpose.

The general rule for years past at the up-country elevators, has been to charge half a cent per bushel for cleaning, grading and weighing, and 2 cents per bushel for a minimum of one month's storage, weighing, and loading into cars. It seldom happens that grain is stored in these for so long as one month, for they are used for cleaning and passing on the grain to the port storage elevators.

At the latter, other storage charges are made for longer periods at reduced rates, a small specific charge being made, if it is necessry, during the storage of the grain, to pass it through the fanning machinery in order to secure its condition.

Experience on the American continent has shown the business to be a thoroughly safe one from the the fact that the Elevator Company takes no risk in connection with the grain market, but merely acts as warehousemen and agents for farmers or grain merchants, the charges being a first claim upon the grain passing from the Company's hands. It is very necessary so to locate and construct each elevator that it shall, as nearly as possible, equal the demands at the point, but provided this is seen to, every elevator should necessarily return a fair dividend upon the cost of construction and the yearly cost of working.

If the proposed Company's operations be restricted, at the start, to up-country operations at a few stations, it is believed that a sum of 50,000*l.* would suffice, to be increased by a similar sum so soon as circumstances justify and Government permit extensions to some other stations, and to a storage elevator at the port concerned. It is hardly likely that the Company's expenditure, during the first five years of its existence will exceed 100,000*l.*, but thereafter, presuming that the benefits of cleaning will then be thoroughly appreciated, both in England and in India, the capital expenditure will increase to a large figure.

6.

GOVERNMENT OF INDIA, Public Works Department, to GOVERNMENT OF INDIA, Revenue and Agricultural Department, No. 104 R. T., dated 1st May 1890.

With reference to correspondence ending with Revenue and Agricultural Department endorsement No. 226 C., dated 31st January 1890, the undersigned is directed to forward, for information, a copy of a letter No. 477 T., dated 13th March 1890, and enclosures, from the consulting engineer to the Government of India for Railways, Central Division, regarding the formation of a "Grain Cleaning and Elevator Company for India."

2. A further commumication on the subject is expected from the Government of Bombay and will be forwarded on receipt.

7.

OFFICIATING CONSULTING ENGINEER TO THE GOVERNMENT OF INDIA FOR RAILWAYS, Central Division, to GOVERNMENT OF INDIA, Pubic Works Department, No. 477 T., dated 13th March 1890.

In reply to Public Works Department No. 0189 R. T.,* of 4th February 1890, I have the honour to forward copies of a letter, No. 2166 of 8th March, from the Agent and Chief Engineer, Bengal-Nagpur Railway enclosing copies of a letter from Major W. T. LeBreton, Retired List, a promoter of the Cleaning and Elevator Company, to the Bengal-Nagpur Railway Company, and of the reply to it, by the Board.

2. The requests for assistance made by Major LeBreton appear reasonable and such as the Bengal-Nagpur Railway might grant on its own interest.

3. The proposals of the New Company embrace two perfectly distinct things, viz.:—

(*a*) a system of receiving dirty or adulterated grain, cleaning, bagging, and storing it, and issuing it again under a system of certificates signed by a Government official; and

(*b*) the introduction of the American Elevator System.

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* R. T., March 1890, Nos. 99 to 110 A.

4. To take the second first, the American Elevator System is a mechanical system of loading and unloading and weighing grain in bulk by the action of gravity and is the outcome of the peculiar conditions of the grain trade in parts of the United States of America, where manual labour is costly and where very large quantities have to be received or delivered at great centres like Chicago in the shortest time and at the smallest cost possible. A sketch of the mechanical part of the system will be found in the Proceedings of the Institute Civil Engineers, Volume LXXVII, page 237. The system is only adapted for dealing economically with very large quantities of grain in bulk, not in bags, and where the grain is carried both by rail and by ship, in bulk and not in bags. The American system.

These conditions do not exist in India. Here manual labour is cheap. The quantities to be dealt with at any up-country railway station cannot be called very large ; they are necessarily brought to the railway station in bags, not in bulk, and neither the rolling stock of Indian railways, nor, I believe, the ships frequenting Indian ports are adapted for carrying grain in bulk. However, as the Company do not propose at first to adopt the Elevator System, it is unnecessary to say more here than to observe that the Government of India could not give them a monopoly to use any kind of machinery in which the Company did not possess a patent right of invention obtained in the usual way under the Patent Laws. Indian conditions.

5. As regards the other proposal of the new Company to establish cleaning machinery at several centres, as set forth in Messrs. Ritchie Stewarts' letter to the Under-Secretary of State for India, the advantages and beneficial effects will be disputed by no one.

6. As regards the countersignature by Government officials of certificates of the quantity and quality of the grain bagged by the Company, it is not apparant how any arrangement could be made. No Government official could be held responsible for his signature to the certificates unless he had complete means, in time, opportunities and technical knowledge, of verifying their correctness, and without such responsibility his signature would be of no value.

7. To carry out the proposal, it would be necessary to appoint special experts to the depôts, who would have to reside constantly on the premises and see all the grain cleaned, bagged and weighed. They would fill a position and perform duties closely analagous to those of the Excise officers attached to breweries and distilleries in the United Kingdom. Government could not thus accredit the certificates without becoming responsible for their contents. Were the experts paid by the Company, they would not be Government officials even if they were appointed and dismissed by Government, and there appears to be no reason why the State should assume any responsibility or incur any expense to further the objects of a private mercantile company. Inspectors and certificates.

8. It would probably be expedient in most cases in the interests of the railways to allow the Company the use of land and sidings at some of the principal stations, but this could not be promised to the Company free of cost, and each case should be dealt with on its merits.

9. It would not seem expedient, even if possible, to grant a monopoly to any Company of any advantage or assistance which Government could properly give. It is not clear how the State could guarantee any interest on capital to a Company over whose operations they could exercise no control, and if the great and wealthy firms now engaged in the wheat trade in India and who ostensibly clean their wheat at the railway stations do not really clean it, it is not clear why it should be expected that they would make it over to another Agency to clean for them.

10. The nine rights for which the Company ask appear to be rights already possessed by all British subjects without any control from Government.

11. I do not think the staffs of the railways could be properly employed in erecting buildings to be the property of the grain Company, and the Company should not look to the railways for other assistance than what the railway workshops could give on the usual terms of payment.

12. The proposed Company would no doubt have to contend with the most formidable opposition from all those people who at present find it more to their interest to deal in adulterated rather than in clean grain, but I think they could and should rely for success, not on Government patronage, but on their own just dealing, like any other commercial firm who propose to succeed by producing and selling a better article than their competitors, and by establishing a reputation for doing so.

8.

AGENT AND CHIEF ENGINEER, Bengal-Nagpur Railway, to CONSULTING ENGINEER FOR RAILWAYS, Central Division, No. 2166, dated 8th March 1890.

In reply to your No. 307 T., dated 17th February 1890, enclosing copy of Government of India No. 0189 R. T., dated 4th February 1890, I have the honour to forward copies of correspondence sent me by my Board with their general letter No. 66 of 1st November last.

The letters contain all I know on the subject at present, but I understand the Board to mean that they are quite prepared to give any facilities in their power that the Government of India would agree to.

9.

MAJOR W. T. LEBRETON, to MANAGING DIRECTOR, Bengal-Nagpur Railway Company, dated 17th September 1889.

Some friends with whom I am associated in the matter have under consideration a scheme for placing the Indian grain trade upon a more satisfactory footing than at present.

We purpose ultimately to establish in India a system very similar to that known in America as the Elevator System, and we believe that one of its most important advantages will be that which will accrue to the railways carrying on the operations in the grain-producing districts.

Objects and advantages of the scheme.

You will be well aware that the existing system is detrimental to the reputation of India as a wheat producing country, and to the extended cultivation of this product, in placing upon the English market adulterated and inferior samples hampered with charges and illegitimate profit, and depressed in value to the consumer by his expenses and trouble in rendering it fit for milling purposes. These circumstances necessarily re-act upon the producer and discourage him from improving and extending his operations, the result being that the areas under cultivation show a tendency to diminish rather than to increase.

With a proper system of cleaning, grading, and storing and handling, we believe that we may calculate on results the opposite of this, and when our ulterior object is arrived at, the railways concerned should benefit in an improved traffic and reduced expenses in handling and in the provision of waggon stock.

A system of elevators properly equipped and situated would relieve the railways of much of the detail and expense of receiving and dealing with grain consignments, and would free the waggons much more expeditiously than under the present system. Even where a break of gauge or necessity for transhipment occurs, a transfer elevator will perform the necessary duty more advantageously than the employment of manual labour. The present intention of my friends is, however, to approach this end gradually, and, as a commencement, their purpose is to establish cleaning operations at a few of the principal stations on some of the most important lines of railway, returning the grain, after cleaning and grading, into its own bags, to be handled by the Railway Companies in the usual way.

In the representation to the India Office it is provided that the clean and graded grain be covered by a certificate countersigned by a Government official, and it is beyond doubt that in European grain centres accustomed to the American system such certificates will receive the credit they deserve, and so soon as they become recognised in the English market, a steady development of the scheme may be confidently anticipated.

We have every reason to believe that the scheme will receive the support of the Indian Government, and my object in now addressing you is to inquire to what extent we may hope for the valuable assistance of your Company.

We would desire to be informed if your Board would desire to see our operations extended to your line of railway, and, if so, would ask the favour of your naming two or three of the most important grain centres which you would suggest for our preliminary cleaning operations.

Assistance required from the Railway.

It is important that the cleaning should be carried on as near as possible to the existing goods-sheds and sidings, and it would be a great assistance to us if your Company would allow us to carry on the work within its own premises. The cleaning

machinery proposed in the first instance would occupy but little ground space, and might be sheltered by an extension of, say, 25 feet of any existing goods-shed.

The other directions in which the assistance of your Company would be valuable may be denoted as under:—

(1.) The hearty co-operation of your staff, especially at stations concerned, in affording such assistance that lay in their power.
(2.) Possibly some extra care at the outset in the handling and conveyance of certificated consignments.
(3.) A favourable rate for the conveyance of the necessary plant and machinery.
(4.) The assistance of your engineering staff in the erection and construction of any buildings.
(5.) The supply to us of any old engines, material or fuel required for our purposes.

For all such services and supplies we would of course be prepared to pay. At this moment I can but ask you kindly to lay before your Board this general sketch of our plans and wants, and should it meet with a favourable reception, a few of us will be happy to meet you for the purpose of discussing details.

10.

MANAGING DIRECTOR, Bengal-Nagpur Railway Co., Ld., to Major W. T. LEBRETON, dated 11th October 1889.

I have submitted to the Board of Directors your letter of the 17th September, relative to a scheme for placing the Indian grain trade upon a more satisfactory footing than it is on at present, by the establishment of a system of cleaning, grading, storing, and handling grain in India similar to that known in America as the Elevator System.

The Board fully recognize the probable beneficial results of a system which would effect the improvements you contemplate.

When your friends are in a position to commence operations, the Board will be glad to place them in communication with our Agent in India, at the same time forwarding him a copy of your letter and instructing him to afford them facilities for giving your system a fair trial.

Co-operation promised.

11.

GOVERNMENT OF MADRAS to the GOVERNMENT OF INDIA, No. 1323, dated 24th February 1890.

With reference to Mr. Under-Secretary Muir-Mackenzie's Circular, dated the 6th ultimo, No. 122–227 C. (Agri.), I am directed to forward copies of the papers noted below,* and to state that His Excellency the Governor in Council concurs in the opinion expressed by the Board of Revenue, that the proposals do not call for consideration in this Presidency, as the area of wheat cultivation is very small and is not likely to increase materially.

12.

CHAMBER OF COMMERCE, Madras, to GOVERNMENT, Madras, dated 7th February 1890.

I have the honour to acknowledge receipt of the order of the Madras Government, dated the 21st ultimo, Mis. No. 445, forwarding to the Chamber for remarks, copy of a despatch and its enclosures, from Her Majesty's Secretary of State for India, relating to the proposed formation of a company for the introduction of grain elevators into India.

In reply, I am desired to say that it seems to the Chamber that, when those concerned in the wheat trade of India are satisfied that an elevator system would be beneficial, there would be sufficient enterprise in Bombay and elsewhere to introduce that system without the elaborate guarantees that are asked for by Mr. James G. Smith. The need for official interference in the matter has yet to be made out, and the Chamber especially deprecates the creation of a semi-official monopoly, but it is right to add that the scheme does not directly concern the Presidency of Madras.

Official interference deprecated.

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* From the Board—Proceedings dated 29th January 1890, No. 411 Mis. From the Chamber of Commerce—Letter dated 7th February 1890.

13.

PROCEEDINGS of the BOARD OF REVENUE, Madras (Revenue Settlements, Land Records and Agriculture),—No. 411 Mis., dated 29th January 1890.

Scheme not required in Madras.

RESOLUTION.—With their letter communicated in the G. O. read above, the Government of India forward papers detailing a scheme for providing grain elevators at certain stations in India in order to clean and raise the grade of the wheat at present exported. As the area of wheat grown in Madras is very small, and as it does not appear likely to increase materially, the Board is of opinion that the proposals do not call for consideration in this Presidency. Nor is there sufficient information available here to admit of their forming an opinion on the merits of the proposal generally.

14.

GOVERNMENT OF BOMBAY to GOVERNMENT OF INDIA, No. 7197, dated 9th October 1890.

I am directed to acknowledge the receipt of Mr. Muir-Mackenzie's Circular letter No. 122—127 C. (Agri.), dated 6th January 1890, and memorandum No. 221 C., dated 31st idem, with their accompaniments, on the subject of the formation of a Company for the introduction of grain elevators into India.

2. In reply, I am directed to forward herewith, for the information of the Government of India, copies of the reports received from the Chambers of Commerce, Bombay and Karachi, the Director of Land Records and Agriculture, and the other officers, &c., mentioned below,* who were consulted by this Government on the subject, and to communicate the following observations of His Excellency the Governor in Council.

3. It will be observed that the majority of the officers, &c., consulted are either opposed to the scheme propounded by Mr. Smith, or support it in a very lukewarm manner when shorn of the onerous conditions stipulated for by that gentleman.

State aid not required.

4. As it is not proposed, for the present at least and for some time to come, to construct elevators, the operations of the projected Company would be limited to cleaning and grading wheat at some few principal trading and railway centres. For such an undertaking no State aid is needed, no monopoly should, or indeed, in the opinion of His Excellency the Governor in Council, without special legislation, could be granted, and no concessions in the form of free land and guaranteed interest on capital should be given. The matter is one purely of private enterprise; it is a mere trading venture, and has no special claim on direct Government assistance.

5. That the wheat grown in the corn-producing tracts of India should reach Europe clean and free from adulteration and admixture of dirt and impurities is indeed a circumstance much to be desired. His Excellency in Council, however, greatly doubts whether the scheme now propounded would secure this desideratum.

6. That Indian wheat is despatched from this country with a considerable admixture of substances which are not wheat is the result of the action of the middleman and the merchant quite as much as, if not more so than, it is the consequence of the negligence or dishonesty of the actual grower. It is clear that the grower cannot be compelled to take his grain to the cleaning and grading depôts of the proposed Company; and he is not likely to do so if he finds that he has to pay for having it cleaned and graded, and that at the end of the process he has returned to him as genuine wheat a less quantity than the produce he brought to the depôt. It is also clear, in the opinion of the Governor in Council, that in the existing circumstances of the trade, the middleman and the exporter will put no pressure on the grower to induce him to have his wheat graded and cleaned. The probabilities, therefore, are that if the Company established its depôts it would find that they remained idle and unused.

Want of inducement to clean wheat.

Certificates: objections to.

7. The Governor in Council also considers that it is obviously most undesirable that any certificates concerning wheat which has been cleaned and graded at a station or depôt should be countersigned by Government officials. There is nothing whatever to

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* The Political Agent, Kolhapur and Southern Maratha Country. The Political Agent, Kathiawar. The Commissioner, Northern Division. The Commissioner, Central Division. The Commissioner Southern Division. The Commissioner in Sind. The Public Works Department, Railway Branch.

prevent wheat so cleaned and graded from being adulterated and mixed with inferior wheat, or weighted with dirt and weed seeds in Bombay or elsewhere after it left the depôt, and the certificate would then be rendered false and misleading.

8. The project now brought forward appears to the Governor in Council to be very different from such a scheme as one for the construction of a railway. It practically is a project for obtaining Government assistance in lending money to cultivators in competition with the local banker. The latter, however, at present holds the field, and would take every care to prevent the proposed Company from interfering with his business and securing his clients.

15.

CHAMBER OF COMMERCE, BOMBAY, to GOVERNMENT OF BOMBAY, dated 19th February 1890.

Opinions adverse.

I have the honour to acknowledge the receipt of your letter, No. 748 of 29th ultimo, giving cover to a letter from the Government of India, Revenue and Agricultural Department, with accompanying papers relating to the formation of a Company for the introduction of grain elevators into India, respecting which you request the opinion of this Chamber.

2. The subject has received the most careful consideration of the Committee, who have also obtained, in addition, the views of other members of the Chamber largely interested in, and conversant with, the wheat trade of India, both as up-country buyers and exporters; and I am directed to say that the opinions expressed are unanimously adverse to the proposed scheme as being unsuited to the requirements of the country, and impracticable financially.

American conditions different.

3. In America, where large tracts of land are under cultivation with the same description of wheat, which can be graded according to the quality of the season, as No. 1 or No. 2, elevators situated at suitable centres of rail and water communication afford to growers, dealers, and speculators a safe, cheap, and convenient means of marketing and storing their produce, which is practically a necessity in an uncertain and rigorous climate. Similar requirements and conditions, however, do not exist in this country. The descriptions and qualities of wheat produced are far too numerous and varied to admit of the system of classification and grading prevailing in America, while the absence of transit facilities prevents the trade concentrating at interval centres in sufficient volume to afford employment for elevators. No doubt, this latter difficulty will be materially lessened as railway communication is extended and improved; but the climatic objections for the use of elevators are permanent and apparently insuperable. For seven or eight months of the year grain can be safely kept in the open air without expense for either rent, fire insurance, or other charges incidental to warehousing; while, during the other four or five months, the native system of storage in pits is not only inexpensive, but gives immunity from weevils which no mode of warehousing ensures. The loss in weight from this cause alone, during the monsoon, would probably not be less than 5 per cent., not to speak of the still more serious damage to quality which results, and for this reason alone, if no other objection existed, the members of the Chamber consider that elevators would prove unsuitable and impracticable. The low cost of manual labour in India, moreover, is an important factor in estimating the working prospects of such a scheme; and except in the mere process of cleaning, where possibly mechanical appliances would be an advantage, little, if any, economy could be obtained in handling wheat by means of elevators.

Clean wheat should and can come from threshing floors.

4. To the cleaning and improving the quality of Indian wheat, this Chamber has always attached the utmost importance; and any means of a practical character likely to attain or further that end would be welcomed by those interested in the trade of Bombay. It is not apparent, however, how the introduction of another intermediary between the grower and the exporter is likely to give any beneficial results. This Chamber has always contended, and still maintains, that given proper conditions of sale in the consuming markets, no difficulty exists in obtaining sufficiently clean wheat at present; but if that were not so, it is evident that the measures to obtain greater cleanliness and freedom from impurities must be taken at the time of threshing, as adulteration or dirt once introduced is beyond a certain point irremediable.

16.

KARACHI CHAMBER OF COMMERCE to GOVERNMENT OF BOMBAY, dated 28th February 1890.

I have the honour to acknowledge receipt of your Revenue Department letter No. 748, dated 29th ultimo, forwarding copy of a letter from the Government of India, No. 122 Agriculture, dated 6th January 1890, with accompaniments, on the subject of the "introduction of grain elevators into India," and asking the views of this Chamber on same.

In reply, I am directed to say that, in the opinion of this Chamber, while they consider the scheme is a desirable one, the guarantees required seem to them to be unduly advantageous to the Company, and they think that when the time for its execution arrives it will probably be on more favourable terms to Government.

17.

POLITICAL AGENT, Kolhapur and Southern Maratha Country, to GOVERNMENT OF BOMBAY, No. 141, dated 2nd April 1890.

Scheme unsuitable.

With reference to Government Resolutions Nos. 747 and 1269, dated respectively, the 29th January and 18th February last Revenue Department, I have the honour to state that, although the scheme of introducing grain elevators into India is doubtless an excellent one, where wheat is grown in large quantities, it is, in my opinion, unsuitable to the present condition of the Kolhapur and Southern Maratha Country States. In none of these States is wheat cultivated in large quantities, and the grain elevators would find little, if any, work.

18.

POLITICAL AGENT, Kathiawar, to GOVERNMENT OF BOMBAY, No. 367, dated 10th April 1890.

With reference to Government Resolution No. 747 of 29th January last (Revenue Department), and accompaniments, I have the honour to forward copy of a note* by Mr. A. Whittle, an expert, resident in Kathiawar.

Kathiawar not a great wheat-producer.

2. Kathiawar is not one of the great wheatfields of India, though the production for export is believed to be increasing. Most of the grain goes by country boat to Bombay—a fact which would somewhat complicate the introduction of the proposed elevator system.

The chief practical difficulty.

3. The chief practical difficulty at the outset would be the local *bunya*, who almost always has a lien on the crop, and who would recognise the new system as fatal to his position and oppose it accordingly. Over the greater part of Kathiawar he is the master of the ryot, and would probably be strong enough to upset the scheme.

4. It can scarcely be expected that the States owning the Kathiawar Railways will share in the initiative of the scheme; but if it succeeds on the great British lines of rail, it is probable that a progressive State like Bhavnagar might take it up, and grant land for buildings, thought it could perhaps scarcely be asked to guarantee interest on the capital invested.

5. The limited quantity of wheat grown in the province for the European market, and the general helplessness of the cultivators make the subject of less importance in Kathiawar than elsewhere.

**Grain-cleaning and Elevator Companies, Limited.*

A Company with the objects proposed above has become a necessity to enable the Indian grain trade to compete with America, Russia, and other grain-producing countries.

The long leads and frequent handling, as well as the bagging of all Indian wheat seriously impede the trade; and the obstructions can only be removed by proposals somewhat similar to those set forth in Mr. Smith and Colonel Filgate's memoranda.

The system of conveying in bulk and ready handling in all shifts from the district market to the ship's hold, I estimate, would effect a saving of at least 18 per cent. on the net cost value of all wheat and grain.

The difficulties in face of the Company would be the middlemen and the rolling-stock of the main lines of railways, which are utterly unsuited to carry grain or seed in bulk.

Elevators could not profitably be applied in Kathiawar save at the proposed sea terminals of the Bhavnagar-Gondal, and Ahmedabad-Dholera Railways, simply because Kathiawar is neither a seed nor a wheat-producing country.

19.

ACTING COMMISSIONER, Southern Division, to GOVERNMENT OF BOMBAY, No. 1268, dated 20th April 1890.

Referring to Government Resolutions, Nos. 747 and 1269, dated respectively, 29th January and 18th February last, I have the honour to submit that the officers consulted in this Division, while unanimously of opinion that, were it possible to induce the people to use grain elevators, it would be an undoubted improvement to the trade of the country, are opposed to granting such exclusive concessions as are asked for by the Company, and deprecate any Government interference with the course of trade.

2. Mr. Fleet, Collector of Bijapur (the district with a very large wheat-growing area), would limit any monopoly, if any be given, to ten years. Mr. Muir makes the sensible suggestions that the Railway Companies being chiefly interested, any concession should be made to them, and that if any such system as that proposed be introduced, Government should leave it to them to work it, giving them every facility and guaranteeing interest on the additional capital. Such native officers as have been consulted are opposed to the whole scheme, as being in advance of the intelligence and wishes of the people.

3. My own opinion can be of little value. I think it would be a mistake to give any Company a monopoly which might practically place the whole wheat trade of the country in its hands; but should it be thought necessary to do so, Government should reserve to itself the option of buying the Company's plant and business at the end of a limited number of years. I agree with Mr. Muir that the Railway Companies should be the corporations with whom the proposed Company should deal rather than with Government, and that any land required and subsidiary work in the way of sidings, &c., in connexion with their lines, should be acquired or executed through their agency.

Government interference deprecated.

4. I am averse to Government servants being mixed up directly in the management of any business, and it would be better that Railway, and not Government, officials should countersign or guarantee any certificates.

5. I observe it is not proposed at present to erect any elevators on the Southern Maratha Railway, so that local opinion has really little bearing on the question.

20.

COMMISSIONER, Northern Division, to GOVERNMENT OF BOMBAY, No. 1246, dated 22nd April 1890.

With reference to Government Resolution No. 747, dated 29th January last,* on the subject of the introduction of grain elevators, I have the honour to forward the reports, as per footnote, of the Collectors of Ahmedabad, Kaira, Panch Mahals, (including Mr. Maconochie's), and Broach, and for my own views to refer to my report as Collector of Ahmedabad. Beyond assisting the first Elevator Companies to a grant of land as they do to railways, I think Government should not interfere.

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*Ahmedabad, No. 478, dated 24th February 1890. Kaira, No. 1479, dated 19th March 1890. Panch Mahals, No. 681, dated 24th March 1890, with Mr. Maconochie's No. 161, dated 24th February 1890. Broach, No. 543R., dated 10th March 1890.

21.

COLLECTOR OF AHMEDABAD to COMMISSIONER OF THE NORTHERN DIVISION, No. 478, dated 24th February 1890.

Scheme valuable,

In reply to your No. 482, dated 18th instant, I have the honour to state that I believe the establishment of the grain elevators would be very valuable and materially assist the wheat trade of India.

but not the business of Government.

2. But it seems to me that Government should not be called upon to assist in establishing them either by money or by the service of their officers. Government, at the instance of the Export Cotton Firms, Bombay, some years ago, did irreparable injury to the ryot by abolishing the Cotton Frauds Act, which prevented good cotton being adulterated with bad, and the repeal of which at this moment is deplored by many of the soundest merchants. The same Government could not consistently lend their officers' services to countersign grain certificates. Why should the quality of grain be certified to any more than cotton? The exports of wheat from Bombay only are 6 crores, as against 12 crores the value of the cotton.

3. The construction of grain elevators, again, seems to me no more the duty of Government than of spinning mills. Government might, perhaps, as an encouragement, give the first Company a grant of land, if they need it, as they do to railways. But even that seems superfluous. If the management of the Port Trust, or the East India or the Great Indian Peninsula Railways, or the private enterprise of European merchants are not equal to constructing and managing grain elevators without assistance from the State, the matter might as well be left alone. In former days, before the extension of railways, Government started gins in Dharwar, and they have aided in starting the tea industry. But these precedents do not apply to the construction of mere magazines for the storage of produce. I should have thought that European mercantile enterprise could and would provide for such a thing without coming to the State for assistance. As, however, it pays apparently the great grain-exporting firms deliberately to adulterate their wheat, I can only assume that they prefer not to use elevators, just as cotton exporters prefer adulterated cotton to cotton kept pure by the interference of the State. If that is the case, why should Government assist in constructing buildings where purification and not adulteration is the object? I note that only 25,000*l.* is needed to commence with. Surely a syndicate could provide such a flea-bite as this.

4. In conclusion, I am quite of opinion that grain elevators are needed and would be most useful, but at this time of day private enterprise should supply them. I admit that our paternal Government ought in some respects to help trade. It ought, in the interests of the cultivators and the owner of the land (the State), to prevent adulteration or mixing, either of wheat or cotton, and enable a pure article to be obtained. But it has no more to do with the classification or the storage of wheat than with that of piece goods; at least that is my humble opinion.

22.

COLLECTOR OF KAIRA to COMMISSIONER, Northern Division, No. 1479, dated 19th March 1890,

Elevator not required at Kaira.

With reference to your No. 482, dated the 18th ultimo, forwarding, for opinion, Government Resolution No. 747 of the 29th January last, Revenue Department, on the subject of introduction of grain elevators into India, I have the honour to report that there is no sufficient production of wheat in this neighbourhood to justify the establishment of a wheat elevator anywhere in Kaira Collectorate, otherwise than as an experiment on its own merits. I do not think it will pay, and I deprecate any encouragement being given to it other than perhaps free use of a site for a short term of years.

23.

COLLECTOR, Panch Mahals, to COMMISSIONER, Northern Division, No 681, dated 24th March 1890.

With reference to your endorsements Nos. 482 and 808, dated, respectively, the 18th ultimo and 15th instant, forwarding for opinion correspondence regarding

the introduction of grain elevators into India, I have the honour to forward the accompanying letters containing the views of my Assistant and District Deputy.

2. In such matters one chief object of the State as landlord is to secure that the best and most carefully grown produce gets its full special price. And though I cannot admit that the history either of the cotton or wheat trade shows that European merchants have been in any way less unscrupulous adulterators than native merchants, I think that the balance of the effect of introducing the proposed system of cleaning and grading may help the more skilful and scrupulous wheat-grower, and perhaps benefit the wheat trade of India as a whole.

3. At the same time I incline to agree with Mr. Pranlal that the proposed change, if suddenly introduced on any considerable scale, would cause serious loss and distress to large classes of local traders. If Government see fit to encourage the Company's proposals by granting certain of the concessions asked for, I trust care will be taken that, in the first instance, the proposed system is introduced into only a few of the largest centres of the wheat trade. To establish elevators in outlying places would dislocate the present system of trade, and, so far as I can judge, cause greater local loss than gain. I think also that, as has happened to a great extent with cotton presses, elevators in outlying places are not likely to be able to bear the heavy charges for machinery and for European management. As regards the Company's proposal to make advances to cultivators, I would deprecate the grant of any concession that would place the Company in a specially favourable position as a creditor. Any interference with the present system of money-lending, specially when such interference has the object of aiding a Company of English merchants at the expense of local traders and money-lenders, seems to me an injustice which Government cannot too jealously guard against. In its present condition, and, so far as I can judge, for several years to come, I think that the introduction of an elevator into any part of the Panch Mahals is likely to cause more evil than good.

Disturbance of trade.

24.

ASSISTANT COLLECTOR, Panch Mahals, to COLLECTOR, Panch Mahals, No. 161, dated 24th February 1890.

IN reply to your reference No. 423 of 21st instant, I have the honour to say that I should regard the establishment of such a Company as one of the greatest benefits which could be conferred upon India. Hampered and injured as it is by the present absurd system of deliberate adulteration, the wheat trade of this country has in a few years attained such enormous dimensions that its exports already exceed those of Russia, and dispute, not unsuccessfully, the hitherto uncontested supremacy of America. Under a system which will ensure the delivery of perfectly clean wheat at a minimum of cost and trouble to all concerned, the trade must advance by leaps and bounds, and at no distant day place India in the proud position of the chief wheat-exporting country in the world. It is a notorious fact that the virgin soils of America are rapidly becoming exhausted. Tens of thousands of acres in the Western States, which a few years ago bore heavy annual crops of wheat, are now devoted to inferior kinds of cultivation—it does not pay to grow wheat on them any longer. Now then is the time by freeing the Indian wheat trade from all disadvantageous conditions to enable it to strike a deadly blow at the already tottering predominance of the wheat trade of America.

Scheme supported.

2. Government no doubt will do all in reason that it can to assist such an immensely important undertaking. At the same time it will probably consider that it is not advisable to grant all the privileges asked for by Mr. Smith. The assistance of the local officers of Government in the matter of the Company's certificates, for instance, is unnecessary and unadvisable. In the first place, the local officers have more to do already than they can well get through; in the second, Government superintendence would have absolutely no effect in inducing the ryot and the trader to take advantage of the Company's system. Both the ryot and the trader think, very naturally, that they know better than Government what is good for them, and I am certain that a Government certificate would be practically inoperative. As soon as these classes realise the advantages of better prices and less trouble afforded them by the Company, they will hasten to avail themselves of them without any Government interference, and may safely be left to do so. The free grant of land at ports and railway stations and

Undesirable concessions.

the monoply of twenty-five years are, in view of the vast importance of the scheme and its initial difficulties, reasonable. There remains the guarantee of interest for five years. About this some doubt may be felt. Yet, if absolutely necessary for the floating of the Company, this too, should be conceded. As is very justly remarked by Mr. Smith, it is not only the Company, but also the State, which is interested in the success of the scheme; five years is not a long time; 4 per cent. is not a high rate of interest; while there is a good prospect of the profits being eventually so largely in excess of 6 per cent. that the Company will easily be able to repay any money Government may have advanced, which can in no case exceed 20,000*l.* Is the prospect worth the outlay? I feel sure that it is, and that Government will never have occasion to regret having generously aided the inception of an undertaking so important to the welfare of the people of this country.

25.

COLLECTOR OF BROACH to COMMISSIONER, Northern Division, No. 543R., dated 10th March 1890.

I have, in reply to your No. 482 of the 18th ultimo, the honour to inform you that I have had those interested in the wheat trade in Broach consulted, and the opinion seems to be that, though the introduction of grain elevators would eventually be profitable to the country, the cultivators and the men who deal in wheat in this district would not take advantage of them; that the dealings are not extensive, and that they would not subject themselves to the extra risks and detention in taking the wheat to stations where there were grain elevators and obtain the requisite certificates; that it would be well, in the first instance, to try the experiment in Bombay.

2. My opinion differs, and I think that if one or two dealers began to use the elevators, all would before long be practically compelled to use them, and if a monopoly for a long term to be given, strict precautions would have to be taken to prevent exorbitant charges being possible or a serious damage might be done to the growing wheat trade of the whole country.

26.

MEMO. by ACTING COMMISSIONER in SIND, No. 1486, dated the 7th May 1890.

Government intervention not wanted.

With reference to Government Resolution, No. 747 of the 29th January, on the subject of certain proposals for the establishment of a State-aided Grain Elevator Company, the Acting Commissioner in Sind has the honour to observe that, in his opinion, no sufficient reasons at present exist for the intervention of Government in a matter which belongs properly to the domain of ordinary trade enterprise.

2. The dirty condition in which the bulk of the wheat exported from India, and especially from Karachi, is at present shipped, is no doubt a matter for regret, and the influence of speculators who have an interest in maintaining conditions of trade which make it unprofitable to ship wheat cleaner than the season's average has for some time delayed the application of a remedy.

Question of clean wheat may be left to the trade.

3. It is the interest of the exporters, however, to develop the trade, and of the consumers, on whom its development ultimately depends, to get clean wheat suited to their needs, and these two interests working together may safely be trusted in due course to bear down opposition and find a way out of the difficulty for themselves. Indications are not wanting that an earlier and more natural solution will be found than the establishment by Government aid of a Company which aims at forcing an enormous existing trade into new channels. From the correspondence printed as Appendix H. H. to the Report of the Bombay Chamber of Commerce for 1889, it appears that the opposition to a substantial reform in the standard which forms the basis of shipping and delivering contracts is now practically limited to the London Corn Trade Association. All other bodies concerned, notably the Liverpool Corn Trade Association, which deals with two-thirds of the import of Indian wheat, are in favour of a fixed refraction of 2 per cent. as a maximum of impurity to be accepted without allowance. The London Association has itself come round to the view that a fixed standard should be substituted for the average of the season, and the only question

now is the percentage to be fixed as the standard, which was still under discussion between the Bombay Chamber of Commerce and the London Corn Trade Association when the report was issued. Apart from this, successful attempts have been made during the past year in Karachi to establish direct relations between the shippers and the millers. Several large consignments of clean wheat have been shipped and sold direct or through factors acting for the millers *on sample*, and this system of business seems likely to extend and prove the best possible solution of the difficulty.

4. The elevator system is admirably adapted to the needs of countries where, as in America, it can keep pace with railway development and the colonisation of new tracts, the produce of which would be unable without it to find a market. Whether it is equally well suited to the conditions generally obtaining in India, is not quite so clear. The Collector of Hyderabad, however, whose long experience of Sind and its people entitles his opinion to some weight, thinks that "the establishment of elevators "would, in a very short time, be thoroughly appreciated, and the whole of the wheat "produced be brought to the elevators to be cleaned, stored, and despatched, and that "it would be worth while for a Company to start business in Sind and the Punjab "alone with more moderate assistance than Ritchie, Stewart & Co. ask for, for all "India." He adds that "it would be essential that merchants should at first have "agents at the stations where the elevators are established to purchase the grain, as a "system of certificates would not be understood for a little while."

5. These remarks appear to the Commissioner practically to contain the key to the situation. The merchants at present buy direct from the cultivators and arrange as suits themselves for cleaning, sorting and despatching what they buy. If elevators were established, the cultivators would probably soon find it to their interest to interpose the Elevator Company between themselves and the merchants, whose functions would thereby be reduced to buying and shipping such wheat, ready clean and graded, as the cultivators might not choose to ship on their own account through the agency of the Elevator Company. It might suit the merchants to accept this system of doing business, and the success of any Elevator Company which had their support and good will would be reasonably certain, without any assistance at all from Government. Without that support and good will, however, its success would be long deferred, if it succeeded at all, and would involve a struggle which it would hardly be fair to determine by the weight of Government influence.

6. When the trade is ripe for them, persons will no doubt come forward to establish elevators wherever there is a prospect of their success, and it may then be politic to encourage their establishment by the grant of free sites and such general countenance as is given to other private attempts to introduce improved methods to the notice of the public concerned in them. But, in the opinion of the Commissioner, it would be very undesirable for Government, at the present stage of the question, to enter into engagements which would certainly hamper the free development of the system when need for it really arises, should that day ever come.

27.

DIRECTOR, Department of Land Records and Agriculture, Bombay, to GOVERNMENT OF BOMBAY, No. 755, dated 12th May 1890.

With reference to Government Resolutions noted below* on the subject of the introduction of grain elevators into India, I have the honour to submit the accompanying memorandum and copy of an interesting letter received from Mr. E. R. Calthrop.

MEMORANDUM by E. C. OZANNE, Esq., Director, Land Records and Agriculture, Bombay, dated the 12th May, 1890.

I fully appreciate any attempt to improve the wheat trade and to assist the cultivator to obtain the price which he deserves for his produce. I think, too, that it is the duty of Government to give ready assistance to any person whose object is to remove the obstacles which prevent the producer from securing the shipment of his grain in as

Scheme deserves encouragement.

* 1. Government Resolution No. 747, dated 28th January 1890. 2. Government Resolution No. 1269, dated 18th February 1890.

clean a state as that in which he sells it, and to help the producer to obtain a cleaner sample than that which his rude methods of threshing and winnowing enable him to show. It is gratifying to find that the producer is no longer charged falsely with wilfully sowing mixed seed or with mixing dirt to increase the bulk of his outturn, but that it is recognized that the middleman and the merchant and the home buyers are responsible for nearly all the impurities in Indian wheat.

Experience of steam-thresher periments.

It cannot be forgotten that a few years ago an enterprising firm sought to obtain all the desired benefits and improvements by introducing steam wheat-threshers. That firm did not ask for any concessions or guaranteed interest or for a monopoly; and yet it proved that its method of improving the wheat trade was suited to the conditions of the country, and indeed, it must be admitted, that it not only showed how a pure sample can be secured, but further how the cost of production can be diminished by eliminating the existing expensive manner of preparing the crop for the market. I need not detail the results of the steam-thresher trials carried out at their own cost by Messrs. Marshall and Sons of Gainsborough, for they were fully reported and are on record. I refer to that trial more to show that the reasons why steam-threshers did not succeed are just the reasons why grain elevators will not easily succeed, *viz.*, the absence as yet of a real demand for pure wheat, the greater profit to others than the cultivator as long as the manipulation of the comparatively pure sample sold by the producer can be secured, and the total inability of the cultivator to get a higher price for fairly clean than for very dirty wheat.

2. I am saved from the necessity of giving a detailed opinion on the question by the enclosed letter from Mr. Calthrop. That gentleman took an intense interest in the steam wheat-thresher trials, and saw personally the difficulties with which any improvement of the kind has to contend. He has for years studied the wheat trade and the means for improving it. His experience makes his opinion valuable. His views are in accord with my own, and I agree in detail with the comments he has made on the various concessions asked for by the Grain Elevator Company, *viz.* :—

Extent of Government assistance.

(1) that to give confidence to the people the certificates should be countersigned by Government officers for a limited time;

(2) that Government should provide the land required for the operations of the Company, even if such land has to be acquired under the Land Acquisition Act;

(3) that the guarantee to the Company that similar concessions should not be given to any other Company should certainly not be for so long a period as twenty five years, but that the guarantee, as far as Government is concerned, may be allowed for, say, five years;

(4) that no guarantee of interest on the capital outlay should for a moment be granted.

Scheme to be tried first at shipping ports.

3. The elevator system, in my opinion, ought to be tried first at the shipping ports and nowhere else till it has secured success there. It is true that the alleged advantage of reduced freights by rail by the elimination of dirt before loading would be diminished; but I am sure that this diminution would practically be inappreciable. If the middlemen know that at the port the dirt will be taken out, the temptation to add to the impurities will no longer exist. This is a point for the consideration of the Grain Elevator Company.

28.

From E. R. CALTHROP, ESQ., Agent, Indian Light Railways, Limited (London), &c., &c., to DIRECTOR, Land Records and Agriculture, Bombay, dated the 7th April 1890.

I have the honour to reply to your letter No. 215 of 6th February 1890, enclosing, with accompaniments, Government Resolution No. 747, dated 29th January 1890, R.D., requesting my opinion relative to the introduction of grain elevators into India, and also to your subsequent communication No. 297 of 20th February 1890, forwarding copy of Government Resolution No. 1269 of 18th February, and accompaniments. I must apologise for the lateness of my reply, but extreme pressure of business prevented me from dealing with this matter earlier.

With reference to Mr. Smith's letter, dated 17th September 1889, I am completely in accord with the views expressed by Mr. Smith as regards the advantages (numbered 1 to 6 inclusive) claimed for the system of cleaning and storing grain in grain elevators, and also as regards the effects (numbered 1 to 11 inclusive), which may be expected after the introduction of the system into India.

With reference to the proposals (numbered 1 to 5 inclusive) as to the nature of the assistance which Government should bestow on the proposed Company, I beg to offer the following remarks:—

(1.) Arrangements for the countersignature of certificates by Government officials.

Government certificates.

This seems to me to be a reasonable request, and the assent of Government would confer the advantage to the public of local inspection by Government officers, and the consequent additional security of the maintenance, locally, of grades to certificated standards; while, at the same time, it would be of assistance to the proposed Company in overcoming the prejudice and distrust with which its operations at the commencement of its business are certain to be regarded by the uninitiated. Government inspection and the countersignature of certificates would be necessary only for a limited period, as full confidence in the Company would be established as soon as the character and scope of its business came to be generally understood.

(2.) The free provision of land for the Company's purposes either within or adjacent to the Railway and Port Trust premises, and connected with the lines by sidings.

Provision of land.

I would advocate all possible assistance being given in this direction. Unoccupied land should be given free of cost. Where that is not available, occupied Government land or private property should be acquired and made over under the terms of the Land Acquisition Act. As regards land belonging to State and Guaranteed Railway Companies, the land might be leased at a pepper-corn rent, provision being made for reoccupation in the event of its being unavoidable for the extension of sidings, station buildings, &c., &c., the cost of removal being borne by the proposed Company.

Monopoly.

(3.) A guarantee that similar facilities will not be accorded to a competing Company or individual for a term of twenty-five years.

From the point of view of public advantage, the grant of a guarantee that this Company should be free from any form of competition for a term of twenty-five years would be most undesirable. In my opinion, if a monopoly of the whole country for such a long period were to be conferred on an individual Company, it would be little short of a calamity to the trade. The modification of the practice and customs of trade, in response to external and internal pressure, is at the present moment so much more rapid than it was even five years ago, that, taking into consideration with the fact that capital for investment in industrial enterprises is also much more readily forthcoming, both from England and in India, it is rendered a certainty to my mind that such terms, if granted now, would appear in another five years to be altogether unreasonable. Every indication tends to support the view that, before the close of the century, opportunities for the remunerative investment of capital in India will be as eagerly sought for as they are now unreasonably disregarded. Year by year the accumulating wealth of England is compelled to go further afield for remunerative investment, and India cannot expect to escape for long the scrutiny that her undeveloped resources are courting.

It may be reasonably expected that in a short time the system of grain elevators, gaining ground as it is everywhere and becoming daily more indispensable, would be brought forward as regards India on terms which, as they would admit of free competition, must be much more favourable to the trade than the proposals under discussion.

The conferring upon this Company a guarantee of the monopoly of the whole country will have much the same effect as the granting of such a guarantee to a Railway Company for the same period would have on the construction of railways in a country where railways did not previously exist. It would result in an undesirable restriction of operations. If the Company, from lack of capital or through being guided by too cautious a policy of extension, did not act up to the legitimate needs of development, the result would be that certain localities possessing no elevators would be placed at a disadvantage to those so provided, nor when the system became almost indispensable, would it be in their power to secure the advantages of the system to themselves by local enterprise, if the directors deemed it undesirable to extend their

business, since, under the terms of a monopoly, none but the Company could provide the elevators and carry on the business.

I would not at all desire, however, that no protection whatever should be given to the promoters of the undertaking. All new enterprises of public welfare in India are deserving of, and most need, assistance to secure a foot-hold; but I consider that a period of five years, certain, with leave to apply for an extension for a further period of five years, should Government then deem it advisable, in the interest of the trade and the public to entertain such an application, would be reasonable and sufficient to give the Company a start, which would enable it to maintain a predominating position over all succeeding competitors, provided that in the meantime its business were to be conducted with ordinary energy and acumen.

(4.) That the grant of concessions as above extend to every grain-shipping port and along every line of railway, built or to be built, through the grain-producing districts of the Indian Empire.

It would be reasonable to grant this concession for a term of five years, with liberty to apply for an extension over a further period of five years, due cause being shown; but no Railway or Port Trust should be permitted to make any agreement for any longer term, for the exclusive right to construct elevators on its premises, with this Company.

Interest guarantee.

(5.) A guarantee of interest at the rate of 4 per cent. per annum for the first five years of the Company's operations, such advances being, however, repayable without interest from half of surplus profits in excess of 6 per cent.

A guarantee in India of interest on capital almost invariably results in a diminution of activity, and I am, therefore, opposed to it in this case on principle; any assistance given to the Company should take, therefore, another form. Coming from a Company which proposes to maintain a grasp of the entire wheat trade from Bombay to Calcutta and from Peshawar to Tuticorin, this application for a guarantee of interest appears to me to betray a singularly slender confidence in its ability to deal successfully even with the picked portions of it; and if the promoters lack the courage to cast such a morsel as 25,000*l.* upon the waters, in view of the great advantages a monopoly of this extensive character would confer upon the Company, it does not bode very well for their enterprise or ability to provide the enormous capital which would be necessary to keep pace with the legitimate demands for the full development of the system throughout the entire country.

At the present moment the conditions of the grain trade are changing. One firm at least is engaged in the shipment of perfectly pure graded wheat to Liverpool, and care should be taken in granting any concessions to this Company; those who are already engaged in a portion of the same business should not be dispossessed of the advantages they have earned by their enterprise and foresight in breaking through, at their own risk, the trade restrictions which have acted so unfavourably on the power and the trade in general.

As regards the grant of rights to the Company, those asked for are the terms usual to the business, and are in accordance with the requirements of the trade in India.

In conclusion, I may state that it would give me great satisfaction on public grounds to see this Company brought into existence and at work, provided that the terms of their contract were in accordance with the views expressed in this letter. I have confidence that the Company would be a success commercially, and that, under an enterprising management and with adequate capital, it would obtain a predominance in five years that would render competition by any separate agency impossible, except under the circumstances of subsequent mismanagement, gross inefficiency, or continued inability to meet the reasonable requirements of the trade.

29.

From COMMISSIONER, Central Division, to GOVERNMENT OF BOMBAY, No. 2411R., dated 31st May 1890.

With reference to Government Resolution, No. 747, dated 29th January last, I have consulted the Collectors in this Division. Those of Poona, Nasik, Khandeish, and Ahmednagar are all of opinion that the concessions asked from Government, or some of them, could not be made, and right No. 7 of those asked for is also objected to in more than one quarter.

2. I think it sufficient to append a copy of Mr. Loch's letter, as I concur, generally, in his views. So far, however, as my own knowledge goes, and with reference to his last paragraph, I should very much doubt the expediency of guaranteeing any interest. The question is, no doubt, one to be considered by the Government of India with reference to large wheat-growing tracts such as do not exist in our Presidency. It is probably in such tracts that this business pays, but Western India has no such feature in common with the United States and Canada, nor is it likely to have, even under such encouragement as might result from increased demand for Indian wheat. Concessions should be reduced.

3. The inexpediency of making concessions (1), (2), and (3) is sufficiently shown by Mr. Loch. As to right (7), the Company would possess it in common with all capitals; but if successful in that branch of business, they would undoubtedly become dealers in grain, whether that be a primary object with them or not.

30.

From Collector of Khandeish, to Commissioner, Central Division, No. 1267, dated 22nd February 1890.

With reference to your memorandum, No. 551 R. of the 5th instant, forwarding papers regarding the establishment of a Grain Elevator Company, I have the honour to state that, though the operations of the Company will no doubt be eventually very useful, and though it will, in all probability, be at first difficult to make the venture a paying one, still the demands for assistance from Government appear to me to be excessive. If the Company were to confine itself to what I may call its proper functions of cleaning, grading, and giving certificates for wheat, there would not be much harm in a connexion between it and Government; but from the list of rights for which the promoters ask it is clear that the operations of the Company will be much more extensive; that it aims at supplanting the existing middlemen, and though Colonel Filgate, in his memorandum, says that it is not to act as a merchant or owner of grain, still, if it is not to make advances to ryots on the security of their land and crops, it will inevitably have to deal in grain. It must also come in contact with the present small traders, and the question arises whether it is desirable for Government actively to support a body which has these aims. I think that it is not desirable for Government to support a trading and money-lending society against other classes of its own subjects. Concessions demanded excessive.

2. I will now deal with the different points on which assistance is asked, and first, with the request that Government officials should countersign the Company's certificates. The officials in this Presidency would no doubt be the long-suffering mamledars, and they would have to countersign in the dark; they would have to take the assertions of the certificate to be true, for they could not possibly check them, and in this case their signatures would be a fraud on the public; for the public would believe that the signatures meant that Government officers had themselves ascertained that the certificates were correct, whereas they have done nothing of the sort. If special Inspectors were appointed the case might be different, but I presume that Government do not contemplate the establishment of a new class of officials for the benefit of the Elevator Company. Certificates.

3. As regards the provision of land for the elevators, Government would have to buy it at a considerable cost in most cases, and I cannot see why the Company should expect to have the public money spent for them. There is very little unoccupied land near the larger railway station, and the occupied land is very valuable. The holders of it might not be willing to part with it, and it would not be possible to take it up under the Land Acquisition Act. Provision of sites.

4. Clauses 3 and 4 of the suggestions for assistance refer to a monopoly to be granted to the Company for 25 years, for this is what their object is. It appears to me that if the benefits to be derived from the elevator system are so great, this assistance ought not to be required, and that competition would be for the benefit of the country. Monopoly.

The last request is for assistance in the way of a guarantee of interest. I think that some such guarantee might be made to a Company which, as I remarked above, confined itself to the elevator business alone; but the propriety of giving such a guarantee to a Company, which is also to be a money-lending Company, appears to me doubtful. Interest.

31.

MEMORANDUM by ACTING SECRETARY to the GOVERNMENT of Bombay, Public Works, Department, No. 1690, dated 16th July 1890.

With reference to resolutions Nos. 747 and 1269, Revenue Department, of 29th January and 18th February respectively, the undersigned has the honour to remark that the question of the formation of a "Grain-cleaning and Elevator Company" for India, and the amount of encouragement and concessions the Indian Government might give to it, may, as far as this Department is concerned, be considered under the following heads :—

(1.) The benefit to the Railway Companies and the State consequent on its introduction.

(2.) The concessions and assistance the Railway Companies may fairly be expected to make or can make.

(3.) The encouragement and concessions the Government may reasonably be asked to give in the provision of land within or adjacent to railway station premises.

It must be noticed that the ultimate aim of the Company is a grand one, involving large capital expenditure, but that a very modest commencement is proposed, viz., to conduct at a few selected railway stations simple cleaning and grading operations, returning the grain into bags, thus discarding for the present the idea of the elevator.

The opinions of the agents of the railways under this Government on the first two points, and the question generally, were invited; their replies, together with a letter from the Secretary of the Bombay Port Trust, have been printed and accompany this memorandum.

Scheme desirable.

The railway agents generally agree in the desirability of any measures tending to improve the quality of Indian wheats, and express willingness to give all reasonable facilities to the projected Company; but when the practical side of the question is taken up, the agent of the Great Indian Peninsula Railway states his reasons for thinking it impracticable at present in this country, and he does not think a place for such a business could be conveniently provided within station limits. The traffic managers of the Bombay, Baroda, and Central India state that the establishment of grain elevators or warehouses is unlikely to prove profitable on the Bombay, Baroda, and Central India Railway proper, that is, on the broad-gauge section of the undertaking; and that on the Rajputana-Malwa or metre-gauge section there are no stations where the scheme would have much chance of success; but that as an experiment could do no harm; Sirsa, Hathras City, and Delhi are suggested as stations most suitable for a trial.

The Bombay Port Trustees confine their remarks to the question of erecting elevators at the docks, and they think they are not required on their property.

At a meeting held at Agra a side issue was raised in regard to the preferential aspect of the question of giving a private Company facilities on railways which were not or could not be given to other undertakings, and it was concluded that the intervention of Government in the form of a private Bill, entitling the Grain Elevator Company to certain privileges, as an undertaking for the public benefit, would be necessary in dealing with this matter.

Prospects of success.

A perusal of the printed correspondence will show that the project is not warmly received and its prospects are not considered very promising. The matter has been treated more in regard to the scheme in its entirety than to the simple commencement proposed, and should possibly be so treated, for any concessions made by Government in the matter of the small beginning would necessarily be demended as the scheme enlarged.

Many of the objections made in the printed correspondence are based on the final intention of carrying grain in bulk; it is only proposed at the start to clean and grade and return the grain into bags. No Railway Company could have the slightest objection so far. The places of business for such operations could possibly be conveniently situated outside station limits, and the construction of sidings, whether at the railway or the Elevator Company's expense, would follow when the traffic in grain demanded it.

Government concessions.

There seems no reason why Government should be asked to countenance an enterprise such as is proposed, except the statement of the projectors that it cannot be undertaken without certain concessions.

The amount, if any, of assistance of Government officers in the matter of its certificates will be considered in other Departments. The matter has, however, been touched upon in the last letter of the printed correspondence. It is doubtful whether Government should be expected to give land free to a trading Company of this description when it is not given to other undertakings, also serving to develop trade and improve the country; but, perhaps, an arrangement might be made by which Government would get some share of the profit after the first five years as a set-off against the value of the land supplied. The land, if supplied, should not be in the railway limits of a Government Railway Company, to whom land for railway purposes has been given free by its contract; but if any land can be spared within railway limits it should be relinquished by the Railway Company and connected, if necessary, by sidings as in the case of cotton mill and other companies.

The opinions of large companies, such as Messrs. Ralli Brothers, to whom allusion has been made in the printed correspondence on the general question, would be of great value.

32.

From AGENT AND CHIEF ENGINEER, Southern Maratha Railway, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 6284—1764, dated 3rd March 1890.

Replying to your No. 1184, dated 10th February 1890, I have the honour to forward copy of letter No. G—78536, dated 25th idem, from the Traffic Manager on the subject of grain elevators.

The advantages that must accrue from any measures tending to promote the reputation of Indian wheat, both at the centres of the export trade and in the European markets, are so well known that it is not necessary to discuss them here, and a system of cleaning and grading up-country with unquestionable certificates of standard of purity would in my opinion fully secure that very desirable object. Scheme should be assisted.

The introduction of the elevator proper is but a secondary consideration. By its means much of the labour and expense connected with the operations of handling and bagging would be obviated, and to me it seems that such facilities must inevitably result, when once confidence in Indian wheat is established, to such an extent as to create a steady demand in the European marts.

The concessions asked for by the promoters are no doubt very great, but considering the vital importance of the subject, I should be inclined to assist them, so far as possible, within reasonable limits.

33.

From TRAFFIC MANAGER, Southern Maratha Railway, to AGENT AND CHIEF ENGINEER, Southern Maratha Railway, No. 78536 G., dated 25th February 1890.

In returning the original papers received from you on this subject, I beg to inform you that I highly approve of the proposal to introduce grain elevators into India. The competition between Indian wheat and that grown in America and Russia is not unlikely to be exceedingly keen in future, and everything which can be done to promote a demand for Indian wheat should be done in the interests of the country at large. The quality of Indian wheat would be greatly improved by the cleansing process to which it would be subjected in the elevators, and facilities for dealing in wheat of known grades would be much increased. It is to be hoped that the Government will countenance the proposal and so help in placing the grain trade, on which the prosperity of Indian railways so much depends, upon a sound and satisfactory footing.

34.

From AGENT, Great Indian Peninsula Railway Company, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 24 I—3082, dated 18th March 1890.

I am desired to acknowledge receipt of your No. 1182 of the 10th ultimo, covering papers regarding the introduction of grain elevators into India.

The object of the promoters is stated to be the cleaning, grading, and handling of wheat, based upon the system adopted in the United States.

The conditions attending the growth and export of wheat from India are so entirely different from anything in America that the success of elevators in the States is worthless as an argument for their success here.

The Agent does not consider the grading of wheat by a public Company is the simple thing suggested; to his mind the scheme is at present impracticable; in this country the various qualities, small parcels, and want of large trade centres would, owing to present difficulties of transit, present insuperable difficulties.

Unsuitability of American system.

The elevator system in America is connected with owning, selling, and speculating in grain, unsuited, the Agent would think, in every sense to the wants of trade here, and the inducements would certainly have to be considerable before the ryot stored grain with an Elevator Company. At present he can do it himself without cost in fine weather, and in the rains he pits it and preserves it; while a Company, such as is suggested, would find a large loss at the end of the wet season from weevils; but on this the opinion of the Chamber of Commerce will be far more valuable.

Regarding the railway, a place for such a business could not be conveniently provided within station limits; beyond that the railway is glad to receive produce from all for transhipment, and willing to do all in its power to facilitate business with this port.

35.

From SECRETARY, Bombay Port Trust, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 2021, dated 7th May 1890.

Your letters of 10th and 27th February last (Nos. 1185 and 1645) and their accompaniments have been submitted to the Trustees, and I have been directed to forward the accompanying copy of the Docks Superintendent's report on the question of erecting grain elevators at the Trustees' Wet Docks, and to intimate that in the opinion of the Trustees grain elevators are not required on their property.

36.

From DOCKS SUPERINTENDENT to SECRETARY, Bombay Port Trust, No. 165, dated 7th April 1890.

Existing facilities at Bombay docks.

In considering the question of introducing the elevator system at this port, it seems necessary, in the first place, to notice that some portion of the facilities that the proposed scheme is expected to provide for the trade, already exists at the docks.

Sidings connect the docks with the railway lines, warehouses are provided for the storage of goods, and warrants are issued for goods deposited in the Trustees' charge, by means of which, like the certificates of the elevator system, goods may be transferred from hand to hand and advances obtained.

The facilities might have been extended and improved to meet the further needs of the trade had there been any indication on the part of the trade to take advantage of them.

But so far as the grain trade is concerned the facilities referred to have never been used. The same cause that has hindered their use will also hinder the introduction of elevators, namely, that the common practice is not to ship grain direct as it arrives at the railway terminus or boat wharves by land or by sea, but to remove it into the town to be there stored, sold, cleaned or repacked, and at the time of shipment it returns to the docks in the shape of complete consignments.

All the grain dealt with at the port is also, as is well known, received in bags and shipped in bags. Under the elevator system it is intended to deal with grain in bulk.

With regard to the shipment of grain in bulk it has to be pointed out that in Bombay shipments are made to a dozen different ports in Europe, and that a number of different consignments of various descriptions of grain, seed, &c., are nearly always carried in the one vessel. It may be practicable, when comparatively large parcels are carried, to take it in bulk, but a number of small consignments must be bagged in order to keep them separate.

A large number of vessels that take exports have come with coal, and the cleansing of the holds for the reception of grain in bulk will take longer than the simple process of sweeping them out when grain is being carried in bags.

The means are also already provided for the rapid loading of vessels in an abundant supply at the docks of the most improved style of hydraulic cranes, by the use of which vessels may easily be loaded well within the number of lay days that it is customary to allow in the charter-parties at this port.

The expenses of the vessel would be increased by the provision of the various fittings, such as cross bulkheads, shifting and covering boards, feeders, &c., that are required in the conveyance of grain in bulk, and would have more or less to be renewed on each voyage.

The Trust is mostly concerned with the part of the scheme that refers to the establishment of port storage elevators, for which it is expected that land will be provided free and connected with the lines by sidings.

It is supposed that the Trust will benefit from the concentration of the traffic at the proposed elevators; but if elevators be provided at all it would be at the docks, and the whole of the export traffic to Europe now goes there.

The intervention of a private company in the arrangements for dealing with goods at the docks is so obviously undesirable as to require no remark. There has been no hesitation on the part of the Trust in providing whatever facilities the trade may require, and if the elevator system of cleaning and grading wheat be generally adopted by the trade, any alteration that might in consequence have to be made in the arrangements at the port would be carried out by the Trust.

37.

From AGENT, Bombay, Baroda, and Central India Railway, to CONSULTING ENGINEER FOR RAILWAYS, Bombay, No. 6,663 T., dated 29th May 1890.

In reply to your letters Nos. 1,183 and 1,643, of 10th and 27th February last, respectively, I have the honour to forward herewith copies of reports submitted by the General Traffic Manager of this Company regarding the proposed introduction of grain elevators in India. This Company fully recognises the necessity of improving the condition of grain as it is at present exported from India, and will be prepared to give all reasonable facilities that lie in its power for the establishment of elevators at stations on this Company's system.

38.

From GENERAL TRAFFIC MANAGER, Bombay, to AGENT, Bombay, Baroda, and Central India Railway Company, No. 7,050, dated 18th February 1890.

Anything calculated to lay down Indian grain in the home market in a clean and creditable condition would no doubt increase its value and help to establish the reputation of India as a grain-growing country.

2. I am not, however, sure that the establishment of grain elevators or warehouses would prove a profitable undertaking on the broad-gauge section of our railway, and it is to this district that I desire to confine my remarks.

3. There are no large grain-growers or persons largely engaged in agriculture, but on the contrary, all are on a small scale, and grain is almost invariably brought from the producers by middlemen and is packed off to market in the state in which it is purchased; any cleaning that takes place being done by the retail dealer. **Practical difficulties.**

4. Very little grain grown in the districts through which our line passes finds its way seaward, as nearly the whole of it is consumed locally or within the districts served by our line.

5. So far as the railway is concerned, elevators or bonded warehouses could not, I think, help our arrangements, but on the contrary they might be found inconvenient for the following amongst other reasons:— **Possible inconvenience to railways.**

(*a.*) If grain is brought to our stations in bags it can be loaded wherever waggons happen to be standing, and a cart can get near them, or bags can even be

carried from carts if waggons cannot be placed where carts cannot approach them.

(*b.*) In like manner on arrival at destination the bags can be easily treated, and if required to remain in our custody for some time, waggons can be readily unloaded and the bags stacked.

(*c.*) If elevators were used there would be trouble in shunting waggons to them, and a siding or sidings would have to be set apart for easy access to where they were.

(*d.*) If grain was loaded in waggons in bulk, a particular class of waggons would be necessary, and such waggons might not be eligible for the general purposes, or to convey the class of traffic going to grain-sending districts. Open waggons, of which we have a considerable number, would not be suitable to carry loose grain.

(*e.*) On arriving at destination grain would have to be, for ready transit in carts, loaded in bags, which would be a great tax upon our station resources on account of the time occupied and the extra area necessary, and wastage would ensue. We at present find it necessary to charge grain, when sent loose, a higher rate than when sent in bags for these reasons.

Shipping difficulties.

6. I do not see how benefit can be derived when grain has to be shipped in docks, as it would be a difficult matter where there are several miles of wharves to get ships alongside a particular elevator, and they are not generally unmoored from the time they commence unloading cargo until they finish taking in their return cargo, nor will it be convenient for a ship to load grain in bulk only, or to confine its load to a particular class of goods, or with cargo for a particular firm.

(*a.*) Any attempt to shunt waggons containing general merchandise alongside a particular ship, even if rails were placed along each wharf, would be attended with much inconvenience, as where ships, thirty or forty or more in number, alongside wharves were giving out or taking in goods, it would be next to impossible to get to each or any particular one with waggons. One ship might load or unload forty or fifty waggons daily, another might load two or three, another might contain goods for Bombay City only.

(*b.*) We can, and do occasionally get near ships with waggons when there are heavy consignments of, say, railway material, but we never or rarely ever get alongside them.

(*c.*) Our docks in Bombay are, I think, as well suited for trade as most docks, but we could not make a distribution or collection of goods to and from ships even if there were two lines of rails and numerous turntables for which there is not space along the wharves.

(*d.*) Most of the grain that arrives in Bombay is sent by men who purchase from the grower to middlemen or agents in Bombay who sell to merchants who export it.

There is at least one firm of merchants, the largest to be found anywhere, who have salaried agents throughout India who purchase grain, cotton, and other produce to a very great extent. Such a firm might carry out grain-cleaning arrangements at stations where goods are first placed on the railway; but whether or not they could command a higher price for their purified article so as to cover expenses is somewhat doubtful. If this colossus firm who have the means of getting as near the grower of grain as it is possible, have unlimited capital, and their own houses in England and on the Continent of Europe and elsewhere do not think it worth their while to try and improve the quality of Indian grain, and adopt the very best means for its transit; I cannot imagine anyone else, or any Company of persons making a successful experiment.

39.

From TRAFFIC SUPERINTENDENT, Rajputana-Malwa Railway, to GENERAL TRAFFIC MANAGER, B. B. and C. I. Railway, Bombay. No. 757 H., dated 6th February 1890.

It is difficult for an Executive Officer whose time is very fully occupied, to form an opinion worth having upon the very complex problem presented in these papers. Personally I have no experience whatever of the grain elevators which are said to be so successful in Russia and America; it seems to me, however, that the conditions of

production in India are so entirely different to those in America, that any calculation based upon comparison of the two countries will be apt to lead one astray.

2. The great bulk of our export trade in wheat and seeds is in the hands of a few large merchants of Bombay, Karachi, or Calcutta; these have their agents in all the districts of India. Ralli Brothers, for example, are met with by their agencies all over the Continent, wherever grain is produced; they have their own cleaning yards at important centres, as at Nagpur, &c., and have a firm hold upon produce as ready purchasers, that would not be easily shaken.

3. The idea of the promoters of the present movement seems to be to introduce a system of central mart to which producers should send their produce in exchange for negotiable receipts of the same utility as bills of lading, and it is probable something of this kind may eventually come to pass; but until the Gujarat cultivator is educated up to something like the standard of intelligence of the Yankee farmer, the Government of this country more nearly approaches the Russian system of administration, I doubt if much will be done. Obstacles.

4. The Indian ryot deals with his village *bunya*, without whose advances for seed and current expenses he would be powerless; and the *bunya* again deals with the agents of the large exporting firms, and these latter could hardly be expected to view the introduction of a kind of third class of middleman in the Grain Elevator Company with very much favour.

5. In the language of a cultivator I should say grain elevators will answer when they are a product from the plant of "Indian Export," but as a graft they will be a failure.

6. It seems to me in any case that if these elevators are to have much chance of success, they must be located in the very heart of wheat-growing centres; neither Hathras nor Agra are exactly the places where wheat may be termed the staple commodity of the surrounding district; whereas Gujranwala on the North-Western line and Raipur on the Nagpur-Bengal Railway are exactly the places adapted to the purposes of this experiment. Both Hathras and Agra are rail centres of importance, but are both too far from the home of production to quite meet what is required. I shall be glad to meet Mr. Holderness at Agra if you wish me to do so. Director, Land Records' No. L.S.—5 of 1st February 1890, with accompaniments, are enclosed. Please return with instructions.

40.

From TRAFFIC SUPERINTENDENT, Rajputana-Malwa Railway, to GENERAL TRAFFIC MANAGER, B. B. and C. I. Railway, Bombay, No. 1,679 H., dated 26th March 1890.

With reference to your memorandum No. 933 of 12th February, and to your subsequent memorandum No. 1,297 of 4th instant, both of which, with accompaniments, are returned herewith, I beg to inform you that I met Mr. Holderness at Agra on the 22nd instant; Mr. Finlay, the collector, and also the municipal secretary, were present at the interview.

2. It was considered that the view taken of the position in my memorandum 757 H. of 6th February referred more particularly to the financial prospects of the Grain Elevator Company, and that we were desired to consider the question of concessions to such a Company, which the Government or the Railway might be expected to give; I said that the railway would, I believed, be disposed to assist at well-selected stations, under certain conditions, in the matter of sidings and sites for cleaning sheds, but that a serious difficulty arose in regard to the preferential aspect of the question. Mr. Finlay was doubtful whether the railway could give to any one private undertaking facilities it was unwilling or unable to give to others, and instanced cotton presses, &c., as undertakings worked with a view to profit, which had not hitherto been specially assisted either by Railway Companies or Government. It was concluded that the intervention of Government would be necessary in dealing with this matter, and that such intervention might have to take the form of a private Bill, entitling the Grain Elevator Company to certain privileges as an undertaking for the public benefit. Agra conference.

3. Mr. Holderness considered that a monopoly might be conceded on certain lines of railway for a term not exceeding 10 years, and that where such monopoly existed, it should be held that the Grain Elevator Company must construct cleaning and storage go-downs when required by Government, or in default should have no right to prevent other people from doing so.

4. He further held that Government from its position and multifarious duties would be unable to undertake this work of grading and classifying wheat; that the railway companies would be travelling beyond the limits of their legitimate work if they were to undertake it; and that the only persons who could do it would be an assisted firm or private company, working somewhat on the lines of that suggested by the promoters of the present movement.

5. There were other details of concession referred to in more or less undecided terms which did not concern me, but I think Mr. Holderness will be inclined to recommend his Government to support the movement to a certain extent.

Stations suggested.

6. As an experiment no harm would be done, and I was asked to suggest three stations on this line which seemed most suitable for a trial; I thought Sirsa, Hathras City, and Delhi appeared to be about the best; the latter might, I considered, be an adjunct of the new line to the Gunj near Lahore Gate.

7. Nothing very definite was recorded and on the general question it was, I think, felt to be a doubtful point whether anything was really needed. I was able to tell the meeting that Ralli Brothers' agent at Ferozepore had informed me that in London, before coming out to this country, he had contracted on behalf of the firm to deliver Bombay wheat with 94 per cent. white, 4 per cent. red, and 2 per cent. *only of extraneous matter*; these figures, it will be seen, fall very short of the standard arrived at by Mr. Cradock, Secretary of the London Corn Trade Association (*vide* papers which accompanied your memorandum 1,297 now gone on to the Engineer-in-Chief as desired).

41.

GOVERNMENT OF BENGAL to GOVERNMENT OF INDIA, No. 2,713–279 Agri., dated 31st July 1890.

With reference to Mr. Muir-Mackenzie's circular letter No. $\frac{122-127C.}{\text{Agriculture}}$, dated the 6th January 1890, and subsequent communications, I am directed to submit, for the information of the Government of India, the accompanying copy of a letter from the Director of the Department of Land Records and Agriculture, Bengal, No. 1,603 Agri., dated the 14th July 1890, and of its enclosures, reporting on the proposed formation of a company for the introduction of grain elevators into India.

2. The Lieutenant-Governor agrees with Mr. Finucane in the conclusions at which he has arrived. The creation of a market for pure Indian wheat in England is most desirable, and very favourable terms may properly be granted to any company which can operate effectively in that direction. But the alteration of the methods by which wheat is cleaned is not shown to be an enterprise meriting special support at the cost of the State. It is a matter which in the Lieutenant-Governor's opinion, may very properly be left to private enterprise.

42.

DIRECTOR OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Bengal, to the GOVERNMENT OF BENGAL, No. 1,603 Agri., dated the 14th July 1890.

I beg to acknowledge the receipt of your No. 386–48, dated 23rd January 1890, calling for report on certain proposals made by Mr. James G. Smith of Bombay, relative to the formation of a Company for the introduction of grain-elevators into India. In reply, I have the honour to report that I have consulted the public bodies, firms, and individuals, named below,* on the subject, and now forward their reports.

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* 1. Secretary, Bengal Chamber of Commerce; 2. Secretary, Agri-Horticultural Society of India; 3. Vice-Chairman of the Port Commissioners; 4. Shipping Master, Calcutta; 5. Collector of Customs, Calcutta, 6. Managers of State Railways; 7. Messrs. Ralli Brothers; 8. Messrs. Moran & Co.; 9. Secretary, Brokers' Exchange; 10. Messrs. Anderson, Wright & Co.; 11. Messrs. Gladstone, Wyllie, & Co.; 12. Messrs. Balmer, Lawrie & Co.; 13. Messrs. Lorraine, King & Co.

2. It will be seen that the preponderance of opinion is much against the proposals made by Mr. Smith. The Bengal Chamber of Commerce write thus—

Bengal Chamber.

The Committee of the Chamber of Commerce have given their best attention to the papers forwarded with your docket No. 463-Agri., dated 4th March, and I am now directed in reply to state that in their opinion any attempt to introduce the grain elevator system into this country would be at least premature. Mr. James G. Smith, in his letter to the Secretary of State, dated 17th September 1889, after enumerating the benefits that would result from the system, and pointing out directions in which the assistance of Government would be necessary, suggests a tentative commencement of operations by the "Grain Cleaning and Elevator Company," pending which the efforts of the promoters would be directed to securing a demand for the clean and graded wheat.

The result of the agitation of last year in favour of clean Indian wheat does not encourage the Committee in the belief that the efforts alluded to by Mr. Smith would meet with any great amount of success. But should a real demand arise for clean Indian wheat, they are of opinion that private enterprise will be equal to the occasion without requiring either the assistance of or a guarantee from Government.

It is not necessary to discuss the suitability of the elevator system to the conditions of the grain trade, at least on two sides of India, further than to say it is open to doubt whether, considering the heavy expenses which the proposed Company would incur, such a Company could successfully compete with the simple but effective methods of cleaning already known to those who deal in grain. The committee, moreover, consider that the proposal that the Company should hold grain for the owner for an indefinite time, and accept the responsibility for its condition, is scarcely one suited to India, owing to the risks attending keeping wheat in this country for any length of time.

The Committee would point out that the scheme contemplates concentrating the grain trade at a few important stations on the principal wheat-bearing railways, and to this extent is diametrically opposed to the policy pursued for the last eight or ten years by Government, a policy which, by abolishing the special reduced rates allowed by the railway administration, for large consignments, aimed at giving petty stations equal facilities with the larger depôts for sending produce to the coast ports. The Committee understand from the principal exporters of wheat that the opening up of these petty stations is largely responsible for the deterioration in the cleanliness of the wheat brought to this port, for whereas this produce was formerly concentrated at some few important stations, there piled and rebagged, it is now forwarded direct, without any piling, handling, or cleaning, to the coast port. While the Committee are of opinion that it is now impossible to nullify the results of this policy and revert to the old system of special rates for consignments of 200 tons, they would urge most strongly upon Government the necessity of permitting the railways to raise the limit for special class consignments of wheat and seeds intended for export, from the present limit of a wagon load to a minimum load of 50 tons.

This will have the effect of making a broad line between wheat intended for export and that for local consumption.

It would assist in raising the standard of cleanliness.

It would place the trade in the hands of men of some little means, instead of opening it up, as at present, to impecunious gamblers.

It would lessen the work needful to be done at the shipping port, and permit of the grain being properly sampled and examined, and so put a check to the false packing and swindling which is encouraged by the system of petty consignments.

The Committee have reason to believe that if this slight reform were introduced, the benefit resulting to the trade would be so great as to leave little to be desired in the condition in which rail-borne wheat would reach the home market.

2. The Agri.-Horticultural Society say—

Agri.-Horticultural Society.

As the different Chambers of Commerce have been consulted, and as the views of the commercial community will thus be laid before Government, the Society deals with the question wholly in its relation to the cultivators.

The establishment of the elevators for the purpose of cleaning grain for export is, the Society consider, not likely to be of any direct benefit to the grower, for the reasons set forth in the following paragraphs.

The conditions under which wheat is grown in India, the small quantities each grower places on the market, the poverty of the people necessitating their selling

their produce without delay, and other causes, preclude any chance of their being able to avail themselves of the facilities for cleaning offered by the system.

As a rule Indian wheat is not purposely adulterated by the growers. The impurities which exist in it when it leaves their hands are due to the system of cultivation and thrashing which are too well-known to need description here.

The growers winnow and clean their wheat to the extent their crude appliances will admit, and undoubtedly some of the earth from the threshing-floor and an admixture of other grains must remain in the crop. This is estimated at 2 to 3 per cent. of earth, peas, and barley. But as the Calcutta contract is for 5 per cent. up to August and 6 to 7 per cent.* after that, it therefore pays the seller to adulterate his batch up to 2 per cent. over the guarantee, or he will lose on the average. This is such a well-established custom that a regular market price for suitable adulterants exists in the exporting districts, and the seller purchases such materials and mixes it with his wheat. The shipper has the lot examined and makes the best bargain he can as to allowance with the seller and sells "fair average" at home; practically his profit is what he gets in this way.

It is probable that even the buyers who collect grain, buying the small quantities sold by individual growers at *hâts* and bazars, and selling again to dealers and merchant's agents, are not likely to be able to deal directly with exporters through the elevators.

There is one feature in what is known as the elevator system which would probably affect the grower prejudicially.

The system is that all grain passing into the elevator is graded and bulked, and a receipt given to each constituent, who, when he requires his grain, receives his quantity from the bulk.

The bulking of such large quantities gives a more even standard than at present exists in India, and these recognised standards again being fixed, their relative prices are fixed.

As a matter of partial convenience, the number of standards or grades will have to be limited, and the present elasticity done away with, so that a superior sample falling into a given class will fetch no more than an inferior sample which is just good enough to pass the standard.

There will therefore be no incentive to buy the best quality of a certain class; the endeavour will be to get the cheapest grain which will pass the standard. This may not matter to the merchant, but the grower who produces a better sample of grain of the same class as his neighbour's, will be no gainer.

I am directed to say that for the reason already given this Society does not enter into the question of the effect which the introduction of elevators would have on the trade in wheat. The Society is aware that there is much to be said from a commercial point of view for the establishment of fixed grades of clean wheat, and for other results of the elevator system. Without offering an opinion on these points or on the system as a whole, I am to point out that in India the existence of the weevil pest would have to be taken into consideration as a factor against the collection and storing of grain in the manner proposed, and special means would have to be contrived to guard against its ravages, more especially where wheat held over for any time.

The Society is aware that the papers before them contain merely an outline of the scheme proposed. They think, however, that there being no allusion to one of the greatest evils with which Indian wheat has to contend is a serious omission.

I am to submit that, if the object of the Government in entertaining the scheme under consideration is to put a stop to the intentional adulteration of wheat in India, a simple remedy exists, viz., to enact that no contract for purchase or sale of wheat will be considered valid unless the price agreed upon is held to be for pure grain. As long as sellers can go into Court and enforce a contract for wheat with 5 per cent. to 10 per cent. adulteration, the evil cannot be stopped. If the price paid was for pure wheat only, no one would expend money on the railway carriage of adulterants which would be deducted from the price, and no exporter would pay freight and charges, unless he got from the seller the full equivalent of what he would lose for any adulterations.

Port Commissioner.

3. The Port Commissioners are of opinion that "the scheme contemplated is not "one which is suited to this country, or one which should have the support of Govern-"ment of the kind asked for." It, however, seems to them that if the requirements

* Should be 5 per cent. up to 30th June, afterwards 6 per cent.—M.F.

of trade necessitated the introduction of such a system, and there was a prospect of its proving remunerative, it would be taken up by private enterprise.

Messrs. Anderson, Wright and Company, remark—

Anderson, Wright, & Co.

The application of the American system to India is, in our our opinion, not what is wanted. Indian wheat is all shipped in bags, whilst American goes to a large extent in bulk, and the elevator is of no use where the bagged article is the rule. This Messrs. R. S. and Company really concede when they come down to proposing to open at a few stations, and conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured.

We think most firms having up-country connections have tried this, but home buyers and brokers are too powerful and will not allow settlement to be made based upon the clean wheat. With an ordinary graded netting and a few coolies, 100 tons daily can be turned out in any godown at a nominal expense without a Government guarantee, and up-country firms, both Native and European, would gladly see a market for clean wheat forced on exporters. This can be accomplished by Government enacting, both here and in England, that no contracts will be recognised in a court of law unless based on a price for the pure wheat. We have pointed out again and again that there is no justification for the acknowledgment in Court of a contract for wheat with 5 per cent. or 10 per cent. adulteration. The only basis of sale recognised by law should be that of pure wheat, and were this the case, no up-country dealer would risk paying railway carriage on five tons of dirt for every 95 tons of pure wheat, and no buyer would accept of wheat without getting the full equivalent of the loss he would sustain on the refraction by sending the parcel to Europe. As long as the law recognises contracts for adulterated wheat, so long will the trade in it continue.

Ralli Bros.

4. Messrs. Ralli Brothers have no experience of the working of elevators in America, and they are not in a position to express a decided opinion on the subject, further than to say in a general way that, viewing the distinct nature and diversity of quality of the Indian grain compared with American, they very much question whether the introduction of any such system in the handling of Indian grain would be successful.

Of the agents and managers of railways, the agent of the East Indian Railway says that until the elevators are introduced, the purity of Indian wheat and seeds for export cannot be guaranteed. At the same time, he remarks that until a proper understanding is arrived at between seller and buyer, it would be useless to attempt to introduce them.

E. B. Railway.

The manager of the Eastern Bengal State Railway states that the railway traffic in wheat and seeds on that line is small, and it is unlikely that an elevator would be required at any of the up-country stations on the Eastern Bengal State Railway. He adds that if higher railway freights could be obtained for wheat dealt with in elevators, the consignor would consider that he paid the Elevator Company the cost of handling his grain, and would probably call for a corresponding reduction in the rates. The railway would effect no practical saving in being relieved of the cost of receiving and watching the grain. He further says that the free grant of land at metropolitan stations and on Port Trust property is a very large concession, but the demands of the promoters appear to him generally to be exorbitant. If they have any real belief in the effects to be produced from the introduction of the elevators, on which so much stress is laid, the Company should be assured of the success of the project on its own merits without calling on Government to guarantee interest and to grant free land. He further adds that the venture is a novel one in this country, and if the promoters were prepared to erect elevators on one railway, and at one port, they might reasonably be given a monopoly for 25 years, and land free of rent until such time as the undertaking paid over a certain per-centage, when arrears could be made good. But as regards the proposals for cleaning, grading, and storing wheat without incurring expenditure on elevators, it seems to him that if such a course could be commercially undertaken at a profit, it would have been introduced long ago without any company or guarantee.

Tirhoot Railway.

5. The manager of the Tirhoot State Railway is strongly in favour of the scheme of having elevators at large and important stations, but he doubts very much their giving any return on the capital outlay on a line like the Tirhoot State Railway, where the stations are situated so closely together. He is of opinion that the railway staff should not have anything to do with the working of the elevators from a mercantile point of view, such as sampling, &c. The railway might give lands and sidings, but he is opposed to giving any guarantee or granting a monopoly to any one firm or Company.

Nalhati Railway.

The manager of the Nalhati State Railway is of opinion that the scheme is one which deserves the encouragement and support of Government.

Scheme as described cannot be entertained.

6. My personal opinion is that the general scheme described in paragraph 1 of Mr. Smith's letter, dated 17th September 1889, is one which cannot be seriously entertained, and need not be considered or criticised in detail. It would be obviously out of the question to provide land free of cost for the Company's purposes at or near every railway station on every line "built or to be built" in the grain-producing districts, or to guarantee that similar facilities will not be afforded to competing Companies, or to guarantee interest at 4 per cent. on any amounts which the Company may deem it desirable to expend, and it is very doubtful whether arrangements can be made in India for countersignature, by Government officials, of certificates of the grading of wheat. As pointed out by Viscount Cross, it is clearly impossible that Government could assist Mr. Smith's project in these matters to the extent suggested, and the only practical question for consideration, at present, is, whether any, and, if so, what support should be given to the specific proposals described in the latter part of Mr. Smith's letter thus—

"In this view, we would propose to select a few stations on some of the principal grain-carrying railways, and to conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured and covered by certificates as to the quantity and quality, thus discarding for the present the idea of the elevator proper.

In the English markets our efforts would be directed to securing a demand for the clean and graded article, and further development of the scheme would be dependent upon the results obtained. We have reason to believe that in the English grain centres, accustomed to the American system, the certificates above referred to will speedily receive the credit they deserve, and so soon as they become recognised in the English markets, and thus act to the benefit of the producer, the steady development of the scheme may be confidently anticipated.

The railways on which it is proposed to commence are—

The Great Indian Peninsula Railway,
The Bombay, Baroda, and Central India Railway,
The Bengal-Nagpore Railway,

these being contributory to the one shipping centre of Bombay, between which place and Liverpool the trade is considerable, while Liverpool is a port already accustomed to the American system of clean and graded grain.

The authorities of the above-named railways have been addressed, and, so far as at present ascertained, the scheme will be favourably received and supported by them.

The stations at which machinery is proposed to be erected will be selected in communication with the Companies.

It is probable that in all some 15 stations at the outset will be provided with cleaning, grading, and weighing apparatus and with some elevating machinery, all of which will have to be sheltered from weather by buildings sufficiently strong to withstand the vibration of the machinery, and constructed with some regard to their future uses.

The machinery may be worked by bullock or steam power, as circumstances may require. It appears to us that the undertaking will necessitate the sending to India of a few qualified men to commence, conduct, and instruct in the operations, but we would desire to avail ourselves of the assistance of Railway Companies' staffs to the utmost extent possible.

	£
We believe that the whole of the machinery required in the first instance is readily obtainable in England, and, including freight, railway charges in India, and other expenses we estimate its cost at - - - - - - -	7,500
The buildings at 15 stations, with cost of fittings and erecting machinery, would probably cost - - - -	10,000
The pay and allowances of staff, preparatory to the commencement of work, may be taken at - - - -	5,000
And preliminary and contingent expenses at - - -	2,500
Making a total of - -	25,000

Besides keeping the capital expenditure within the narrowest limits, it would be our object to keep down the working expenses and charges as low as possible. In the more advanced stages of the undertaking, the charges to be made will, beyond doubt,

be far more than covered by the saving in cost of handling, &c., but during the preliminary operations just described the charges for cleaning and grading must be reduced to a minimum, to be covered by the enhanced value of the clean grain, and still leave the ryot sufficient inducement to avail himself of the advantages offered.

During this period of education and experiment, we can hardly expect the machinery to do more than pay the expenses of its working, but each subsequent step in advance should put our operations on a more satisfactory footing.

So soon as demand for clean and graded wheat is secured in the United Kingdom, a demand on the part of the producers or owners for the cleaning and grading of their wheat will certainly follow, and as this increases so will the present scheme progress towards the erection of a complete system of elevators, and as success becomes assured on one or more lines of railway leading to one port, so will other lines of railway and other ports be supplied with similar advantages.

All extensions of operations involving expenditure beyond the amount of 25,000*l.* referred to in this paper would be submitted for the sanction of the Secretary of State for India in such manner as he may direct, and we confine our present request for a guarantee of interest to a half-yearly payment, calculated at the rate of 4 per cent. per annum on the 25,000*l.* already indicated, and on the subsequent sums sanctioned from date of such sanction, for a period of five years from that of the acceptance of the proposals which we have the honour to make.

The capital of a Company sufficiently important to deal adequately with the subject of our representation must necessarily be large, but at starting the amount to be called up would be limited to 25,000*l.*, and during the continuance of the guarantee further calls must be restricted to amounts necessary to cover extensions duly sanctioned."

Inducement to clean wheat.

7. It will be observed that the proposal here is to abandon at first the American principle of the grain elevator, to return the grain in bags, after cleaning, to the owners, and let them dispose of it as best they can. But if, as is alleged, an adequate price cannot now be obtained for clean grain, and if it pays, as it certainly does, to have the grain as produced from the threshing-floors, mixed with dirt, the question arises why should the owners bring their wheat to the elevators to be cleaned, and if they did bring it, why should the fact of its having been cleaned secure for it an adequate price, seeing that clean grain does not fetch an adequate price? Wheat can now be cleaned at a very low cost, and machinery was introduced for the purpose by Messrs. Ralli Brothers and others, but it was found that the clean grain, when exported, did not realise a relatively better price, and it is not clear how the fact of its having been cleaned by an elevator will cause it to do so, especially as the process of cleaning by elevators will, according to Messrs. Ralli Brothers and others, be more expensive than cleaning by native agency with sieves. For these reasons I am of opinion that ryots and traders will not bring their grain to the elevators to be cleaned, if the grain, when cleaned, is to be returned to them, and they are left to do the best they can in obtaining an adequate price for it. But if Mr. Smith's Company were to buy the grain from the cultivators and traders on the best terms they can, and were then to clean, grade, and export it at their own risk, and were thus to endeavour to create a market for clean grain at home, it is a question for consideration whether Government would not, in that case, be justified in giving land for the buildings free of cost at or near 15 selected railway stations on the lines named, and in guaranteeing interest at 4 per cent. for five years on the outlay for buildings and machinery, up to a maximum of 1,000*l.* per annum. On this point I have consulted, at a meeting (the record of proceedings of which is annexed), Messrs. Ralli and Petrocochino, who as merchants are largely interested in the wheat trade, and Mr. Pallachi, who is one of the principal brokers interested in the trade from the point of view of Native dealers. It will be seen that Messrs. Ralli and Petrocochino are of opinion that Government even in the case supposed would not be justified in giving to the Company the limited assistance suggested, because the scheme of grain elevators has, in their opinion, no chance of success. Mr. Pallachi thinks that this plan is worth a trial, provided that no monopoly is given to the Company. If the Company believes in the efficacy of their elevators in reducing the cost of cleaning grain, and if they believe they can get an adequate price for clean wheat, then they should, he thinks, be prepared to try the experiment on these terms. Mr. Pallachi does not, however, himself believe that the elevators will pay or that the promoters will be able to obtain a remunerative price for clean grain.

Company must buy clean and Export.

Limits of Government assistance.

8. I am of opinion that if any assistance is to be given to the Company it should be in the way above suggested. If the Company are willing to run the risk of erecting elevators at 15 railway stations, at a maximum cost of 25,000*l.*, and if they will

make their own arrangements for the purchase and disposal of their wheat, and thus endeavour to create a market for clean grain in Europe, Government may, I think, having regard to the importance of the object in view, encourage them to the extent of guaranteeing interest of 1,000*l.* a year for five years, and of giving free sites for their buildings. If the Company succeed in creating a market at home for clean grain at remunerative prices, they may be left to extend their operations without Government interference, and if they fail, the loss to Government can in no case be more than 5,000*l.*, and would probably be less.

9. It will be observed that the Chamber of Commerce (which originally moved Government to impress on cultivators the necessity of producing clean grain) hold that the system of elevators is unsuited to India, and from what has been said it is clear that the introduction of them cannot, at best, have much effect for some time to come.

Legislation against adulteration.

10. The question then arises, can nothing be done towards stopping the system of deliberate adulteration now practised, and towards securing a supply of clean grain for export? Messrs. Anderson, Wright, and Company, and the Council of the Agri-Horticultural Society suggest that the only basis of sale recognised by law should be that of pure wheat, and were this the case, no up-country dealer would, they say, risk paying railway carriage for five tons of dirt for every 95 tons of wheat, and no buyer would accept dirty wheat without getting the full equivalent of the loss he would sustain by sending the parcel to Europe. They propose that an enactment be passed, both here and at home, to the effect that no contract will be recognised in a Court of law unless based on a price of pure wheat. The result of such an enactment would be, that not only would there be no inducement to adulteration left, but growers would have an incentive to produce clean grain, which they now have not, and in a short time they would probably do so. Mr. Ralli says the Calcutta merchants would have no objection to such an enactment if the home merchants have none. The Calcutta merchants are, he says, the servants of the home merchants, they can and will send pure grain if it is wanted and paid for; it is because it is not wanted that it is not sent. Mr. Ralli is, however, at the same time of opinion that the proposed enactment would be objectionable on general grounds as being an unnecessary interference on part of Government with trade.

11. The Chamber of Commerce are also of opinion that there is no need for legislation on the subject, and regard the enactment of a law on the terms proposed as a most undesirable interference with freedom of contract. I also am of opinion that the time has not yet come for legislation of this kind, which should not be had recourse to unless and until the evil complained of is clearly shown to be injurious to the public interests, and until all other remedies have been tried and failed.

12. The question then is what other remedies are possible? In my letter No. 1,265, dated 18th August 1887, paragraph 10, it was suggested that wheat might, like oil-seeds, be sold on analysis at home. This proposal was discussed at the conference between Viscount Cross and the gentlemen interested in the wheat trade, held at the India Office on the 8th May 1889, and it was stated by Mr. Todd, on behalf of the London Corn Trade Association, that the proposal was impracticable for the following reasons:—

"That wheat might be sold at home on analysis like seeds (Mr. Finucane's report, page 13). That the Corn Trade Associations might be asked to fix the refraction on all sale contracts of wheat at not over two per cent. (Mr. Forbes Adam's letter to His Excellency the Governor of Bombay, paragraph 26).

"This question of selling wheat on a per-centage rate of refraction has on various occasions occupied the attention of the Sub-Committee (Indian section) of the London Corn Trade Association, and had also been discussed by the General Committee of the London Corn Trade Association, but the principle so far has been considered impracticable.

"There is a great difference between selling seeds and wheat on analysis.

"1st. The quantity of any description of seeds sold is very considerably smaller than that of wheat.

"2nd. Seeds, especially linseed (by far the largest trade in seeds), show little variation in quality, and hence it is practicable in large parcels of linseed to have the analysis made on *one* average sample to determine the whole shipment. This, with the variations in quality, admixture, &c., &c., in wheat, almost from bag to bag, is

impossible, and therefore it would be necessary for every small parcel of 50 tons or 100 tons to have separate average samples drawn, and have them analysed.

"3rd. In seeds, owing to the above slight variation in quality, a comparatively small sample is analysed; whilst in wheat a considerably larger sample will have to be analysed, and thus the cost will be greatly increased.

"The charge for analysing a sample of linseed is 5*s.*, whereas on wheat we believe it has not yet been done under 2*l.* 2*s.*, a very heavy charge on 50 tons or 100 tons of a poor article like wheat.

"4th. The quantity analysed being larger, it naturally will take much longer to analyse, and when in a large parcel of 2,000 to 2,500 tons of wheat, something like 20 or 25 analysis will have to be made, it can easily be understood that delay must follow, rendering the final settlements protracted and unsatisfactory.

"5th. Lastly and chiefly, seeds are not liable to weevil. Wheat is, and sometimes it suffers most severely from this inherent defect. How would the advocates of analysis deal with the weevil flour dust? If they take it as refraction it would be very unjust to the shippers, who, although they may have cleaned down and shipped in India a parcel containing only two per cent. refraction, may be called upon through the wheat being attacked by weevil during the voyage to allow on final settlement 5 per cent., and even 6 per cent. or 7 cent. on refraction, besides making an allowance for quality in consequence of the excessive weeviled condition of the said parcel. If, on the other hand, weevil flour dust is admitted *not* to be an heterogeneous substance, how is it to be separated from the fine earth, sand, or other impurities? * *

"Seeing, therefore, that the natural condition at present of Indian wheats is to contain about 4 per cent. of admixture on the Bombay side, and 5 per cent. on the Calcutta side; that under the circumstances it is not practicable to induce the Indian shippers to change their system of purchasing, and instead of buying on the above natural refractions to introduce an artificial basis of a 2 per cent. refraction; that buyers practically are not prepared to pay a proportionately higher price for cleaner wheats; that the system of selling on analysis here is altogether impracticable and unadvisable; that the conditions of the Indian wheat trade, although slowly, are gradually improving; that India ships and sells all her wheat available for export year by year, and that her development, in this branch at least, is not prevented by the present condition of her wheats; that the interference of Government in questions of contract as between seller to buyer is inadvisable,—our opinion is that it is not advisable or desirable to try and force sudden and radical changes in the natural condition of a trade, but that it is preferable to let the improvement come gradually out of the trade itself, taking it for granted that merchants, sellers, and buyers, shippers and consumers, &c., are too keenly alive to their interests to allow any opportunity for improvement in their trade, when such becomes advisable, to pass by."

Refraction discussed.

13. In answer to these objections it may be stated that Indian wheat is, as a fact, now bought on analysis in Marseilles, and it appears reasonable to believe that what can be done on one side of the English Channel can also be done on the other. Messrs. Ralli and Petrocochino, who can speak with authority on the subject, say that, so far as they can judge, what is done in Marseilles can also be done in London. The difficulties connected with weeviling are not, they say, insuperable, while Mr. Pallachi says there are no such difficulties. Assuming there are such difficulties, it appears reasonable to suppose that if they can be surmounted on the system of purchasing by fair average quality, they can be also got over if contracts are made on the basis of pure grain. I am informed by competent authorities that it is far easier to refract wheat than oilseeds, and that the process is less expensive and more expeditious. Again, to the statement that wheat, on the Calcutta side, in its normal condition, contains 5 to 7 per cent. of admixture, and that for this, among other reasons, it is not desirable to force sudden and radical changes on the normal condition of a trade, it may be answered that it is not a fact that the normal condition of wheat, on the Calcutta side is to contain 5 per cent. of admixture. If it were a fact, there would be no place for wilful and deliberate adulteration. It is only with a view to degrade wheat, as produced from the threshing floors, from its normal condition down to the required standard of refraction, that adulteration is practised or has any object. "The growers," the Agri-Horticultural Society point out, winnow, and clean their wheat to the extent their crude "appliances will admit, and undoubtedly some of the earth from "the threshing-floor and an admixture of other grains must remain in the crop. This "is estimated at 2 or 3 per cent. of earth, peas, and barley. "But as the Calcutta "contract is for 5 per cent. up to August, and 6 to 7 per cent. after that, it therefore

Trade in adulterants.

" pays the seller to adulterate his batch up to 2 per cent. over the guarantee, or he " will lose on the average. This is such a well-established custom that a regular " market price for suitable adulterants exists in the exporting districts and the seller " purchases such materials and mixes them with his wheat. The shipper, it is added, " has the lot examined and makes the best bargain he can as to allowance with the " seller and sells fair average at home; practically his profit is what he gets in this " way. In Calcutta, where there are no threshing-floors, the refuse fannings and " screenings from merchants' godowns and millers' works are bought by regular " dealers whose head-quarters are at Hatibagan.* This is sold as pigeon food, and is " the basis of such adulterants as are used in Calcutta. In the mofussil the " adulterants used include refuse, small bits of brick, cow-dung, and a large proportion " of earth. The adulteration thus consists in putting back into the grain a given " quantity of what has been previously removed, so as to degrade it to a low standard."

In my report, No. 391 T., dated 7th July 1886, paragraph 5, it was shown that the Manager of the Dumraon Raj " had a golah at Itari near Buxar, from which he used " to sell wheat on rather a large scale to the Agent of Ralli Brothers at Buxar. The " wheat as he got it did not contain 5 per cent. of foreign matter. Accordingly the " Manager's servants were directed to mix two maunds of earth with every hundred " maunds of grain, so as to bring the adulteration up to the required standard. This " earth was treated with water, and specially prepared for purposes of adulteration."

Major Boileau, then Sub-divisional Magistrate of Dinapore, wrote :—

The grain-dealers wilfully adulterate their grain, adding about two maunds and thirty seers of dry clay, *bhusee*, and other grains to every hundred maunds of wheat; and Mr. Carnduff, Sub-divisional Officer of Hajeepore, said, " In the hands of the " middlemen the grain is lodged in golahs, and such grains as *akla pipra* are inten- " tionally added with a view to adulteration." Again, so competent an authority as Mr. J. Ralli, the head of the firm of Messrs. Ralli Brothers, in Calcutta, says that in his opinion, " relatively pure wheat can be supplied from India. It is a question of price."

Normal impurity.

14. How then in the face of all this evidence is it possible to assert that the normal state of Indian wheat on the Calcutta side is to contain 5 to 7 per cent. of foreign matter? It may be admitted that its normal state is to contain 2 to 3 per cent. of other grains and dust, but the deliberate adulteration with refuse, bits of brick, and prepared adulterants is the result of the abnormal, factitious, and unhealthy system of having a fixed standard of 5 to 7 per cent. of refraction, a system which obviously holds out a direct and powerful incentive to adulteration up to that standard, and makes it positively wrong for Government officers to advise or encourage cultivators to produce pure grain. Neither can it be correctly said, as far as the Calcutta trade is concerned, that the conditions of it are gradually and slowly improving. On the contrary there has, the Calcutta Chamber of Commerce remark, been a deterioration in the quality of wheat brought to this port in recent years. Wheat has, it has been stated, been shipped from Calcutta in the present year in a dirtier condition than ever before, containing admixture of foreign substances up to 12 per cent., while the total quantity exported fell from 217,000 tons in 1887–88 to 147,000 tons in 1888–89 and to 78,000 tons in 1889–90.

Purchase on analysis.

15. If wheat were bought on analysis in London, as is done in Marseilles, there would be no motive for adulteration and no object in exporting dirt, while the normal condition of Indian wheat, to which the London Corn Trade Association attach so much importance, would not be in any way affected. As to the question of weevilling, on which so much stress is laid in this connexion, it is to be remarked that Mr. Charles Whitehead, Agricultural Adviser to the Lords of the Committee of Council for Agriculture, holds that " the foreign matter annexed with wheat imported from India " serves as a medium for the wholesale transportation of insects injurious to crops; " that the admixture of dirt, seeds, and rubbish causes the wheat to heat, which is " detrimental to its quality, and at the same time causes the weevils to propagate " unusually, and to materially damage it. Besides the actual money loss occasioned " by these weevils, it is stated that the flour made from wheat much infested by them " is injurious to health."† Whatever, then, the evils arising from weevilling may be, it is evident that they are aggravated by a system which encourages and even necessitates admixture of dirt, which causes the weevils to " propagate unusually," and thereby renders " the flour injurious to health." For these reasons I agree in the

Weevil injurious.

* Agri-Horticultural Society's letter, dated 5th June 1890.

† Board of Trade's Journal, No. 35, for June 1889, page 687.

opinion expressed by the Bombay Chamber of Commerce in their letter, dated 14th June 1889, to His Excellency the Governor of Bombay, that the reasons given by the London Corn Trade Association for adhering to the present system are either incorrect in fact or irrevalent, and I am of opinion that no improvement in the purity of Indian wheat will be brought about by grain elevators, threshing machines, or by other means, unless and until that system is changed either by— Essential reforms.

(1) reducing the standard of refraction to 2 to 3 per cent., which is the normal per-centage of admixture of foreign matter; or

(2) by making pure wheat the basis of contract, thus refracting only the actual quantity of foreign matter found on analysis.

It is open to the London Corn Trade Association to adopt either of these courses, and it is difficult to see what the objections to them are, assuming that the exporters and importers do not, as alleged by the Agri-Horticultural Society, derive their profits from the present admixture of dirt.

16. A further question remains for consideration, namely, whether wilful adulteration in this country should be put down by legislation. Mr. John McDougall in a letter, dated 25th March, to the Under-Secretary of State, strongly advised that, failing the adoption of the other measures suggested, it should be made penal to deal in or export grain to be used for human food in any way adulterated. Mr. Seth Taylor, the President of the London Corn Trade Association, at the conference held in the India Office, remarked on this point as follows :—

" We accept your Lordship's disclaimer that you are not going to dictate between the buyer and seller which, I think, would be beyond the scope of our legislature, whatever may be done in other countries; but I think that the limit to which the Government might interfere with advantage would be the prevention of wilful admixture of foreign substances in wheat in India. We must discriminate between what is naturally grown and is necessarily harvested with the wheat, and the system of mixing dirt with the wheat to bring it down to a standard below that which should come here. That, of course, one feels is a practice which might very fairly be made a penal offence. But that rests with your Lordship and the Government. I am quite sure that it would be to the interest of everyone if such an enactment could be passed. The difficulty there is in fixing a limit of 2 per cent. refraction is owing not only to dirt, but to the seeds of various kinds that are grown amongst the wheat. We have not only from India but from other countries foreign elements grown in the wheat, and to have a system of cleaning wheat at the port of shipment would add more to the cost of wheat than the buyer would give on the other side."

17. It thus appears that the London Corn Trade Association as represented by their President would be in favour of legislation with a view to stop deliberate adulteration, as such legislation, it is said, would be in the interest of everyone. I would not, however, recommend recourse to such legislation. It is evident as long as contracts are made on the basis of 5 per cent. of foreign matter, that if wheat is produced from the threshing-floors with only 2 per cent. of foreign substances, and wilful admixture of foreign matter be not allowed, the gainers would be the merchants at home, for they would secure grain with only 2 per cent. of dirt, when they had contracted and paid for grain with 5 per cent. of dirt, and the losers would be the ryots and petty dealers in India, who would obtain for comparatively pure grain the same price as for wheat with 5 to 7 per cent. of mixture. If, then, legislation is to be had recourse to at all, it should be designed not alone with a view to punish deliberate adulteration, but also with a view to punish trading or dealing in grain which has been adulterated. It cannot be said that the practice of adulterating wheat at present followed is punishable under the Indian Penal Code, for it is not certain that the adulterants are deleterious to human health, inasmuch as it is said that the dirt and adulterants are removed by millers in England before flour is consumed, nor can the practice be considered fraudulent, inasmuch as the purchasers of adulterated wheat contract for and purchase the dirt, and know what they are buying. The persons who to some extent suffer from the present system are the consumers of flour in England, who have to pay unnecessarily for cost of five to seven maunds of dirt for every hundred maunds of wheat, then to pay for the extra cost of separating the wheat from the dirt in England, and at the same time obtain for consumption, at a needlessly high rate, flour which must be less wholesome than if it were made from wheat imported in a pure state. But the class which chiefly suffers are the Indian ryots, who are placed by the system in an unfavourable position to compete with foreign markets, and may in time, in consequence of the system, be driven out of the market altogether. Legislation to penalise adulteration.

Railway rules as to export consignments.

18. The proposal made by the Chamber of Commerce to allow Railway Companies to raise the limits of special class consignments of wheat and seeds intended for export from the present limit of a waggon load to 50 tons (these special class consignments are carried at specially low rates) is one which cannot, in my opinion, be supported. It is not clear how the adoption of this proposal could affect the cleanliness of wheat, while the proposal is obviously objectionable on other ground as tending to unduly favour exporters at the expense of the growers and petty dealers. The adoption of the proposal would, it is said, draw a sharp line between wheat intended for export and that intended for local consumption. The latter is now adulterated even more than the former, and consignments originally intended for local consumption, with admixture of 10 to 12 per cent. of dirt, are sometimes bought up by exporters and shipped as they stand, but the same thing would happen supposing the Chamber's proposal to be accepted.

Summary of recommendations.

19. To sum up: I am of opinion that the elevators may be tried in fifteen selected stations as proposed, provided that the Company make their own arrangements for the purchase and sale of their grain, without the interference of Government officials; that a guarantee of interest at 4 per cent. on a maximum outlay of 25,000*l.* per annum may be given for five years, and free sites for buildings; but I doubt whether the elevators will have any appreciable effect in causing clean grain to be exported from India as long as the present system of 5 to 7 per cent. refraction continues; that this system renders the admixture of dirt and foreign substance up to that standard inevitable; that the reasons given by the London Corn Trade Association for adhering to the present system, so far as Calcutta is concerned, are founded on misapprehension of facts; that their conclusions ought to be reconsidered; that special legislation should not at present be had recourse to; but, if other remedies fail, that it will then be a question for consideration whether, as suggested by Mr. McDougall of London, it should not be made penal to deal in or export wheat, intended for human food, which there is reason to believe has been wilfully adulterated or contains substances deleterious for human consumption.

43.

PROCEEDINGS of a MEETING held in DARJEELING on 28th May 1890.

PRESENT:

MR. J. A. RALLI, } Merchants,
,, PETROCOCHINO, }
,, PALLACHI, Broker,
,, FINUCANE, Director of Agriculture, Bengal.

The following questions connected with the subject of erection of grain elevators in India and the impurity of Indian wheat were discussed:—

Questions.—Is the scheme described in Mr. Smith's letter, dated 17th September 1889 (which was read), one which is suitable for India?

Messrs. Ralli, Petrocochino, and Pallachi consider that the system is not suited to India, and, if it were, they think that the concessions and privileges which Mr. Smith asks for are so impracticable that they need not at present be considered *Seriatim*. It would be obviously out of the question to provide land for the Company's purposes free of cost in every railway station from which wheat is exported; or to guarantee that similar facilities will not be afforded to a competing Company; or to guarantee interest at 4 per cent. on any amount which the Company may deem it desirable to expend.

2. Apart from the general scheme, is it desirable, as an experiment, to give the facilities asked for to enable the Company "to select a few stations on some of the principal grain-carrying railways, and to conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured, and covered by certificates as to the quantity and quality, thus discarding for the present the idea of the elevator proper"?

2. Mr. Finucane said that as Mr. Smith proposes to return the grain to the bags, and to let the owners dispose of it as best they can, the advantage of the elevators was not apparent. If an adequate price cannot, as is alleged, be now got for clean grain, and if it pays people to have the grain as produced from the threshing-floors mixed

with dirt, why should they bring their grain to be cleaned to the elevators? If they did bring grain to be cleaned, why should the fact of its being cleaned in the elevators secure for it an adequate price if, as is asserted, clean grain does not now fetch an adequate price?

Mr. Ralli said people would not bring their grain to the elevators to be cleaned. Wheat can now be cleaned at a very low cost. Machinery was introduced by his own firm for cleaning grain, and grain was cleaned; but it was found that it did not fetch a relatively higher price. It is not clear how the fact of its being cleaned in the elevators could secure an adequate price for it. The process would probably be more expensive than cleaning by native agency with sieves. Therefore the elevators must be financial failures. Messrs. Pallachi and Petrocochino agreed. In this connexion Mr. Ralli adds that he understands the Elevator Company will charge on all certificates granted an uniform wastage of a certain per-centage, perhaps ½ per cent. per month. This would, in his opinion, be most objectionable, because it would place the man who delivers a parcel of wheat in good condition on the same footing as one who delivers badly weevilled wheat, which will go on deteriorating in weight to a much greater extent than good conditioned parcels. The one man will thus benefit at the expense of the other.

3. How would a plan work of having the owners of the elevators buy and sell the grain at their own risk, *i.e.*, suppose Mr. Smith's Company were to buy the grain from cultivators, traders, or others on the best terms they can, then bundle, clean, and export it themselves at their own risk, and thus endeavour to make a market for clean grain at home? Would Government in this case be justified in giving land for the buildings on State Railways, and guaranteeing interest on the outlay on buildings and machinery, as proposed by Mr. Smith, up to a maximum outlay of 25,000*l.* for five years? This would involve a guarantee of only 1,000*l.* a year for five years. If the Company succeeded, they might then be left to extend their operations without Government interference; if they failed, the risk, so far as Government is concerned, would not be great. No monopoly should, of course, be given to them, and no guarantee as against other Companies or firms. Isasmuch as they would be pioneers in trying the experiment of procuring clean grain and obtaining a market for it, might they be encouraged to the extent of giving them free sites for their elevators at the selected railway stations where they propose to begin their operations, and might they be guaranteed 4 per cent. interest on an outlay on buildings and machinery up to a maximun outlay of 25,000*l.* for five years, being, after that term, left to work on purely commercial principles?
4. Messrs. Anderson, Wright, and Co. say that the grain elevator system is unsuited to India, and urge that there is no justification for the acknowledgement in Court of a contract for wheat with 5 per cent. or 10 per cent. adulteration. Up-country firms, both native and European, would, they say, gladly see a market for clean grain forced upon exporters. This can be accomplished by Government enacting, *both here and in England*, that no contract will be recognised in a court of law unless based on a price for pure wheat. Were this the case, no up-country dealer would risk paying railway carriage on 5 tons of dirt for every 95 tons of pure wheat, and no buyer would accept of wheat without getting the full equivalent of the loss he would sustain on the refraction by sending parcels to Europe.

The Agri-Horticultural Society urge the same view, and say "there is a well-"established custom of deliberate adulteration, that a regular market price for "suitable adulterants exists in the exporting districts, and that sellers purchase "these materials and mix them with their wheat. The skippers make the best "bargain they can as to allowances (for dirt) with the sellers, and sell fair "average at home. Practically their profit depends on what they get in this "way."

QUERIES.

(*a.*) What would be the objections to such an enactment as Messrs. Anderson Wright and Company and the Agri-Horticultural Society propose?
(*b.*) Are these objections outweighed by the advantages to the trade and public which would be attained?
(*c.*) Is it true that the profits of exporters practically depend on adulteration?

5. Will the alterations made as to forming the standards in which deliveries will be compared in case of need by the London Corn Trade Association have any effect in causing cleaner grain to be exported than heretofore?

6. As the elevator system is not believed to be likely to afford a remedy, and as the London Corn Trade Association have done practically nothing, and as legislation is not approved, then nothing can be done in order to secure export of clean grain.

The Calcutta Chamber of Commerce have urged on Government the desirability of impressing on cultivators the necessity of producing clean grain. It has been shown that it would, under present conditions, be wrong to impress anything of the kind on cultivators, and that nothing can be done in that direction towards securing export of clean grain. Is nothing then to be done in any direction?

Can wheat be sold on analysis?

Is it sold anywhere on analysis?

7. How would the recommendation of the Bengal Chamber of Commerce operate towards securing exports of cleaner grain?

Their recommendation is that Government should permit railways to raise the limits for special class consignments of wheat and seeds intended for export from the present limit of a wagon-load to a minimum load of 50 tons.

8. Where there is a deliberate adulteration of wheat going on in the manner described by the Agri-Horticultural Society, should it be stopped by police interference under the Penal Code, if that be possible, and if not possible under the Penal Code, should an Act be passed to make the practice penal?

3. Mr. Pallachi thinks that this plan is worth a trial, provided that no monoply is given in any shape. If the Company believe in the efficacy of their elevators in reducing the cost of turning out clean grain, and if they believe that they can get an adequate price for clean wheat, they should be prepared to try the experiment on these terms. But Mr. Pallachi himself thinks the elevators will be financial failures, because the increase of cost of cleaning the grain will be more than the increase in price which will be obtained for the cleaned grain at home.

Mr. Ralli does not think that the Government would be justified in offering any guarantee, because he thinks the scheme has no chance of success. He would not himself invest a pice in elevators on this or any other plan. Mr. Petrocochino agreed with Mr. Ralli.

Mr. Ralli adds that basing oneself on the experience of firms long established, the necessary staff and organization for carrying out such a scheme would be so costly as to prejudice any reasonable chance of success. It would be tantamount to constituting the Grain Elevator Company into a mercantile concern to which one season's unfavourable experiment would be disastrous, especially with so limited a capital.

4. Mr. Ralli says the objections to such an enactment are the following:—

1st.—The general objection to Government interference in trade.

2nd.—Such an enactment would result in an evasion of the letter of the contract. The Calcutta merchants would have no objection to such an Act if the home merchants have none. The Calcutta merchants are the servants of the home consumers. It is because the home markets pay relatively better prices for unclean wheat that shippers find it better to export it.

It is not because of difficulty in procuring clean grain that it is not exported, but it is because there is a better demand for dirty wheat that dirty wheat is exported. Mr. Pallachi entirely agrees in this view; so does Mr. Petrocochino. The statement is not correct that the profits of the shippers depend on the system of refraction, the home buyer pays a price knowing what he has to get. In case of excess admixture the shipper is mulcted in heavy allowances.

With reference to the statement in No. 4, Anderson, Wright and Company, to the effect "that no up-country dealer would risk paying railway carriage on 5 to 10 per cent. of dirt," Mr. Ralli remarks that sellers send down seeds ordinarily containing a greater amount of admixture than the one contracted for. Although, for instance, a contract of linseed stipulates that in the event of the admixture exceeding a certain per-centage buyers (besides several other options) have also that of rejection, it has been found impracticable to enforce it.

5. Mr. Ralli says the alteration made is one in the right direction, and will probably check any tendency for future increase in the admixture of wheat shipped from India. Messrs. Pallachi and Petrocochino agree.

6. Mr. Ralli says the only remedy is to be found in the consumer in England paying an enhanced price for a superior article. If he does the article can be supplied. He believes that relatively pure wheat can be supplied from India. It is a question of price. As to the question of selling on analysis, wheat in Marseilles is sold, he believes, only by his firm (Ralli Brothers) on the basis of analysis, *i.e.*, fixing a percentage of the components. Usually any differences arising in the deliveries in Marseilles as to analysis are judged by the eye, but of course the buyer has the right of proceeding to analysis. The basis of admixture on which his firm sells guides the general deliveries of Indian wheat in Marseilles. This change, however, has not, he believes, increased the imports of Indian wheat into Marseilles.

As to the basis of selling on analysis in other countries, he supposes the same might be done in England if buyers are prepared to pay the difference of price, which is very doubtful; but of course it will enhance the cost.

Mr. Petrocochino agrees with Mr. Ralli.

Mr. Pallachi says that, so far as he can judge, there are no difficulties so far as weevilling is concerned, in selling by analysis. It is done in Marseilles; why not elsewhere?

7. Mr. Ralli says that there would be greater uniformity, as the tendency would be to throw the export trade from the districts into the hands of larger dealers.

Mr. Pallachi says the adoption of the recommendation of the Chamber would have no effect whatever in the direction of securing export of clean grain, and would be injurious to the interests of petty dealers.

Mr. Finucane said it would also appear to be injurious to cultivators, as throwing additional obstacles in the way of sale and export of small quantities of grain.

8. This is a question of law on which it is preferred not to express an opinion.

The 28th May 1890.

M. FINUCANE,
Director, Department of Land Records and Agriculture, Bengal.

44.

From BENGAL CHAMBER OF COMMERCE, to DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 386—90, dated 7th May 1890.

The Committee of the Chamber of Commerce have given their best attention to the papers forwarded with your docket No. 463 Agri., dated 4th March, and I am now directed in reply to state that in their opinion any attempt to introduce the grain elevator system into this country would be at least premature. Mr. James G. Smith, in his letter to the Secretary of State, dated 17th September 1889, after enumerating the benefits that would result from the system, and pointing out the directions in which the assistance of Government would be necessary, suggests a tentative commencement of operations by the "Grain Clearing and Elevator Company," pending which the efforts of the promoters would be directed to securing a demand for the clean and graded wheat.

The result of the agitation of last year in favour of clean Indian wheat does not encourage the Committee in the belief that the efforts alluded to by Mr. Smith would meet with any great amount of success. But should a real demand arise for clean Indian wheat, they are of opinion that private enterprise will be equal to the occasion. without requiring either the assistance of, or a guarantee from, Government.

No opening for elevator under present conditions.

It is not necessary to discuss the suitability of the elevator system to the conditions of the grain trade, at least on two sides of India, further than to say it is open to doubt whether, considering the heavy expenses which the proposed Company would incur, such a Company could successfully compete with the simple, but effective, methods of cleaning already known to those who deal in grain. The Committee, moreover, consider that the proposal that the Company should hold grain for the owner for an indefinite time, and accept the responsibility for its condition, is scarcely one suited to India owing to the risks attending keeping wheat in this country for any length of time.

The Committee would point out that the scheme contemplates concentrating the grain trade at a few important stations on the principal wheat-bearing railways, and to this extent is diametrically opposed to the policy pursued for the last eight or ten years by Government—a policy which, by abolishing the special reduced rates, allowed by the Railway Administration for large consignments, aimed at giving petty stations equal facilities with the larger depôts for sending produce to the coast ports. The Committee understand from the principal exporters of wheat that the opening up of these petty stations is largely responsible for the deterioration in the cleanness of the wheat brought to this port, for whereas this produce was formerly concentrated at some few important stations, there piled and re-bagged, it is now forwarded direct, without any piling, handling, or cleaning, to the coast port. While the Committee are of opinion that it is now impossible to nullify the results of this policy and revert to the old system of special rates for consignments of 200 tons, they would urge most strongly upon Government the necessity of permitting the railways to raise the limit for special class consignments of wheat and seeds intended for export, from the present limit of a waggon-load to a minimum load of 50 tons.

Special class consignments.

This will have the effect of making a broad line between wheat tended for export and that for local consumption.

It would assist in raising the standard of cleanliness.

It would place the trade in the hands of men of some little means, instead of opening it up, as at present, to impecunious gamblers.

It would lessen the work needful to be done at the shipping port and permit of the grain being properly sampled and examined, and so put a check to the false packing and swindling, which is encouraged by the system of petty consignments.

The Committee have reason to believe that if this slight reform were introduced, the benefit resulting to the trade would be so great as to leave little to be desired in the condition in which rail-borne wheat would reach the home market.

45.

CALCUTTA WHEAT AND SEED TRADE ASSOCIATION, to BENGAL CHAMBER OF COMMERCE, No. 41 H., dated 6th June 1890.

Mr. Finucane's letter of the 28th ultimo to your address, with its annexures, regarding a proposal that the only basis of sale of wheat which should be recognised by law should be that of pure wheat, was duly considered by the Committee of the Association at their meeting held yesterday, when I was desired to let you know, for the information of Mr. Finucane, that in the opinion of the Committee it is useless to try to compel people to clean wheat as long as the Home Trade is indifferent about it, and is satisfied with what it now receives. The Committee further consider that there is no need for legislation on this subject, and they regard the enactment of a law on the terms proposed as a most undesirable interference with freedom of contract.

Legislation undesirable.

As regards Mr. Finucane's inquiry with reference to the other proposal, that the limit for special class consignments of wheat intended for export should be raised by the railways from the present limit of a waggon-load to a minimum of 50 tons, the Committee do not think it necesary to express any opinion, as this point will no doubt be dealt with by the Chamber from whom the proposal emanated.

I return the papers herewith.

46.

AGRI-HORTICULTURAL SOCIETY OF INDIA to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 3rd April 1890.

I have the honour to acknowledge receipt of your endorsement No. 464, dated the 4th ultimo, forwarding, for the expression of this Society's opinion, correspondence accompanying Revenue Department endorsement No. 516—63 Agri., dated 11th February 1890, in connexion with establishing grain elevators in India.

2. I am to say that as this Society understands that the different Chambers of Commerce have been consulted, and as the views of the commercial community will thus

be laid before Government, the Society deals with the question wholly in its relation to the cultivators.

3. The establishment of the elevators for the purpose of cleaning grain for export is, the Society consider, not likely to be of any direct benefit to the grower, for the reasons set forth in the following paragraphs.

4. The conditions under which wheat is grown in India, the small quantities each grower places on the market, the poverty of the people necessitating their selling their produce without delay, and other causes, precludes there being any chance of their being able to avail themselves of the facilities for cleaning offered by the system. Reasons against the scheme.

As a rule Indian wheat is not purposely adulterated by the growers. The impurities which exist in it when it leaves their hands are due to the system of cultivation and thrashing, which are too well known to need description here.

The growers winnow and clean their wheat to the extent their crude appliances will admit, and undoubtedly some of the earth from the threshing-floor, and an admixture of other grains, must remain in the crop. This is estimated at 2 to 3 per cent. of earth, peas, and barley. But as the Calcutta contract is for 5 per cent. up to August, and 6 to 7 per cent. after that, it therefore pays the seller to adulterate his batch up to 2 per cent. over the guarantee, or he will lose on the average. This is such a well-established custom that a regular market price for suitable adulterants exists in the exporting districts, and the seller purchases such materials and mixes it with his wheat. The shipper has the lot examined and makes the best bargain he can as to allowance with the seller, and sells "fair average" at home; practically his profit is what he gets in this way.

It is probable that even the buyers who collect grain, buying the small quantities sold by individual growers at *hâts* and bazaars, and selling again to dealers and merchants' agents, are not likely to be able to deal directly with exporters through the elevators.

4. There is one feature in what is known as the elevator system which would probably affect the grower prejudicially. Loss to cultivator.

The system is that all grain passing into the elevator is graded and bulked, and a receipt given to each constituent, who, when he requires his grain, receives his quantity from the bulk.

The bulking of such large quantities give a more even standard than at present exists in India, and these recognised standards again being fixed, their relative prices are fixed.

As a matter of practical convenience, the number of standards or grades will have to be limited, and the present elasticity done away with, so that the superior sample falling into a given class will fetch no more than an inferior sample which is just good enough to pass the standard.

There will therefore be no incentive to buy the best quality of a certain class; the endeavour will be to get the cheapest grain which will pass the standard. This may not matter to the merchant, but the grower who produces a better sample of grain of the same class as his neighbour's will be no gainer.

5. I am directed to say that, for the reason already given, this Society does not enter into the question of the effect which the introduction of elevators would have on the trade in wheat. The Society is aware that there is much to be said from a commercial point of view for the establishment of fixed grades of clean wheat, and for other results of the elevator system. Without offering an opinion on these points, or on the system as a whole, I am to point out that in India the existence of the weevil pest would have to be taken into consideration as a factor against the collection and storing of grain in the manner proposed, and special means would have to be contrived to guard against its ravages, more especially were wheat held over for any time. Danger of weevilling increased.

The Society is aware that the papers before them contain merely an outline of the scheme proposed. They think, however, that there being no allusion to one of the greatest evils with which Indian wheat has to contend is a serious omission.

6. I am to submit that, if the object of the Government in entertaining the scheme under consideration is to put a stop to the intentional adulteration of wheat in India, a simple remedy exists, viz., to enact that no contract for purchase or sale of wheat will be considered valid unless the price agreed upon is held to be for pure grain. As long as sellers can go into court and enforce a contract for wheat with 5 per cent. to 10 per cent. adulteration, the evil cannot be stopped. If the price paid was for pure wheat Legislation for adulteration.

only, no one would expend money on the railway carriage of adulterants which would be deducted from the price, and no exporter would pay freight and charges unless he got from the seller the full equivalent of what he would lose for any adulterations.

47.

AGRI-HORTICULTURAL SOCIETY OF INDIA to DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 5th June 1890.

I received your demi-official No. 173, dated the 29th ultimo, on the 2nd instant, and though it was marked urgent, I have had to delay replying a couple of days to collect the samples sent herewith.

And nature, value, &c. of adulterants.

You ask (1) the value of adulterants, (2) the districts where they trade in them, (3) if they are of such a nature as to be deleterious for human consumption, (4) whether in the opinion of this society the deliberate adulteration of wheat, if not already penal, should be made so.

(1.) The value of the adulterants vary: those which are not added intentionally, such as gram and oil-seeds, having a distinct value, in some cases exceeding that of wheat; these, with a small per-centage of earth and chaff, compose what may be called the natural adulteration. The adulterants which are added purposely include most of the foregoing taken from the general threshing-floor, and other refuse, small bits of brick, cow-dung, and a large proportion of earth. The adulteration thus consists of putting back into the grain a given quantity of what has previously been removed, so as to degrade it to the low standard.

In Calcutta, where there are no threshing-floors, the refuse, fannings, and screenings from merchants' godowns and millers' works are bought by regular dealers whose headquarters are at Hatibagan. They hand-clean and divide out the gram, oil-seeds, &c., into the quantities sent herewith. The bulk remaining consists of light and weevilled wheat, earth, and a proportion of oil-seeds. This is sold as pigeons' food, and is the basis of such adulterants as are added in Calcutta.. There is comparatively little done in this way here, as the wheat with the given per-centage of refraction comes down from the districts. The price of this material is from 12 annas to Rs. 1-2 per maund, according to quality, and to it is added the earth which has been separated. The samples are marked B 1, 2, and 3 and E.

The gram and chaff is bought by carters to feed their bullocks, by grain parchers, &c., and the oil-seed is readily sold. This brings us to the (3) question as to whether the adulterants are deleterious. The proportion of foreign matter of every sort not being 8 per cent. in extreme cases, there does not seem much danger, particularly when it is considered that the grain is professedly dirty, and that it is cleaned before being prepared for human food.

(4.) As your letter is urgent, and the members of the committee who would deal with such a reference as yours are absent from Calcutta, I cannot reply to the question of penalising deliberate adulteration. Should you desire it, I can write you on this point hereafter. I believe my committee think that the remedy suggested in the sixth paragraph of my official letter to you would be quite sufficient, but, for the reasons given, I have not been able to again consult them on this point.

And samples of impurity.

In addition to the samples I send, got from Hatibagan, and lettered according to the enclosed list, I send a collection of twelve samples kindly given to me by Mr. W. W. Duncan. They are from the firm's flour-mill, which has the best machinery for cleaning and sorting grain, as well as for milling, on this side of India. The samples are drawn this morning from the separator, and you will observe that some of the foreign matter could have easily been cleaned out in the exporting district. I have not seen such a collection elsewhere, and think that you will find them of interest.

P.S.—Since writing the foregoing, I have obtained the following additional samples:—

G.—The sweepings collected by the dealers, with the dust taken out. This sample contains wheat of bad quality, oil-seeds, &c. The price in this condition is Rs. 1-12 per maund to Rs. 2.

H.—The dust taken out of the above sample, Rs. 9 per cart

I.—A sample prepared for adulterating wheat, called technically *hatka*—

No. 1. Uncleaned wheat.
„ 2. Refuse from fan-valve of separator before going on to sieve.
„ 3. Fannings from first sieve of separator.
„ 4. Gram from second sieve of wheat separator.
„ 5. Screenings from third sieve of wheat separator.
„ 6. Fourth sieve of wheat separator.
„ 7. Refuse from fan-valve of separator after passing through the sieves.
„ 8. Screenings from Cockle cylinder.
„ 9. Refuse from first valve of smutter.
„ 10. Refuse from second valve of smutter.
„ 11. Fan-valve of brush machine.
„ 12. Clean wheat.

SAMPLES from HATIBAGAN.

A. Grain and barley, price at Rs. 1-8 per maund.
B¹. B². B³. Light and shrivelled grains of wheat, oil-seeds, and earth, at Rs. 1-2 per maund.
C. Oil-seeds at Rs. 1-8 per maund.
D. Oil-seeds at Rs. 1-4 per maund.
E. Earth at Rs. 0-8 per maund, or Rs. 10 per cartload.
F. A sample prepared to show the sweepings purchased, none remaining uncleaned.

48.

CHAIRMAN, CALCUTTA PORT COMMISSIONERS, to DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 318, dated 6th May 1890.

I have the honour to acknowledge the receipt of your endorsement No. 463-71 Agri., dated the 4th March 1890, forwarding, for an expression of the Commissioner's opinion, copy of correspondence which has passed between the Government of India and the Secretary of State on the subject of the formation of a company for the introduction of grain elevators into India.

2. In reply I beg to state that the papers were carefully considered by the Commissioners at a meeting held on the 30th April 1890, and in pursuance of a resolution then passed, I have to state that the Commissioners are of opinion that the scheme contemplated is not one which is suited to this country, or one which should have the support of Government of the kind asked for. It, however, seems to them that if the requirements of trade necessitated the introduction of such a system and there was a prospect of its proving remunerative, it would be taken up by private enterprise. Scheme unsuitable.

49.

MANAGER, EASTERN BENGAL STATE RAILWAY to the DIRECTOR, Department of Land Records and Agriculture, Bengal, No. 839M., dated 26th April 1890.

In reply to your letter No. 469 Agri., dated 4th March 1890, I have the honour to make the following remarks regarding the proposed Company for the introduction of grain elevators in India. Concession exorbitant.

2. As regards this railway the traffic in wheat and seeds is small, and it is unlikely that an elevator would be required at any of our up-country stations. If however, it should hereafter at any time be considered expedient to erect one, we have no employé at such stations who would be qualified to issue certificates of quality.

3. It is, I think, doubtful if higher railway freights would be obtained for wheat dealt with in elevators; the consignor would consider that he paid the Elevator Company the cost of handling his grain, and would probably call for a corresponding reduction in the rates. The railway would effect no practical saving in being relieved of the cost of receiving and watching the grain.

4. The free grant of land at metropolitan stations and Port Trust property is a very large concession, but the demands of the promoters appear to me to be generally so exorbitant that this point does not perhaps call for special remark. If they have any real belief in the effects to be produced from the introduction of the elevators on which so much stress is laid on page 2 of the printed papers, they should be assured of the success of the project on its own merits without calling on Government to guarantee interest and to grant free land.

5. The venture is of course a novel one in this country, and if the promoters were prepared to erect elevators on one railway and at one port, they might reasonably be given a monopoly for 25 years and land free of rent until such time as the undertaking paid over a certain per-centage, when arrears could be made good. But as regards the proposals for cleaning, grading, and storing wheat without incurring expenditure on elevators, it seems to me that if such a course could be commercially undertaken at a profit it would have been introduced long ago without any company or guarantee.

6. In conclusion I may add that I have no practical acquaintance with the details of dealing with grain on the elevator system as worked in America or elsewhere, and I therefore give my opinion on the subject with some diffidence.

50.

OFFICIATING MANAGER AND ENGINEER-IN-CHIEF, Tirhoot State Railway, to the DIRECTOR OF LAND RECORDS AND AGRICULTURE, Bengal, No. 2,507, dated 19th April 1890.

In reply to your endorsement No. 470 Agri., dated 4th ultimo, I have the honour to state that I am strongly in favour of the scheme of having elevators at large and important stations, but I doubt very much their giving any return on the capital outlay on a line like the Tirhoot State Railway, where the stations are situated so closely together.

Success of scheme problematical.

I should oppose the railway staff having anything to do with the working of the elevators from a mercantile point of view, such as sampling, &c., &c. The railway might give lands and sidings but I should be opposed to giving any guarantee or granting a monopoly to any one firm or company.

51.

MANAGER, NALHATI STATE RAILWAY to the DIRECTOR OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Bengal, No. 1,812, dated Nalhati, 3rd May 1890.

With reference to your No. 471 Agri. of 4th March 1890 regarding the introduction of grain elevators in India, I have the honour to state that I am of opinion that the scheme is one which deserves encouragement and support from Government.

52.

AGENT, EAST INDIAN RAILWAY COMPANY, to the DIRECTOR OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Bengal, No. 5,862, dated 14th May 1890.

With reference to your docket No. 468 A., dated the 4th March last, regarding the introduction of grain elevators in India, I am of opinion that until they are introduced the purity of Indian wheat and seeds for export cannot be guaranteed. At the same time I beg to point out that until a proper understanding is arrived at between seller and buyer it would be useless to attempt to introduce them.

Proposal deserves encouragement.

Doubtless in course of time a better and purer description of wheat will lead to a larger demand and the country would benefit by increased exports.

On the whole I am in favour of the introduction of elevators, but I would deprecate any attempts to create a monopoly in favour of any port or railway in India.

53.

TRAFFIC MANAGER, EAST INDIAN RAILWAY, to ACTING AGENT, EAST INDIAN RAILWAY, No. 2,937, dated 25th June 1890.

Rule as to minimum weight for produce.

The question does not appear to have been quite clearly stated in the letter from the Chamber of Commerce. We have not abolished the special reduced rates formerly only given for large consignments, but we have removed the condition that the lowest rate shall be subject to a minimum of a train-load or other large quantity. Our charge for wheat and seeds in waggon-loads is now lower than the specially reduced rates formerly quoted for large consignments.

The train-load minimum was withdrawn fourteen years ago under instructions from the Board of Directors, and I cannot find that since then there as been any desire to re-introduce it, or any other minimun which would be likely to affect traffic from the small stations which we have opened from time to time.

At present, owing to the tonnage of our wagons, it would be to our detriment to introduce a minimum of 50 tons (irrespective of other considerations). Of 50 tons say 46 could be loaded in four wagons, and the fifth must be reserved entirely for the remaining four tons to prevent confusion with mixed consignment, &c.

Enclosure returned.

54.

Messrs. RALLI BROTHERS to the DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 12th March 1890.

Success of scheme doubted.

We beg to acknowledge receipt of your letter, dated 3rd March, requesting our opinion regarding the introduction of grain elevators into India.

We have carefully perused the documents attached to this letter, and regret to inform you that, as we have no experience of the working of elevators in America, we are not in a position to express a decided opinion on the subject further than to say in a general way that, viewing the distinct nature and diversity of quality of the Indian grain compared with American, we very much question whether the introduction of any such system in the handling of Indian grain would be successful.

55.

Messrs. WILLIAM MORAN & Co., to the DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 12th March 1890.

We have to acknowledge your letter No. 1,060 of yesterday's date, forwarding the papers relative to the introduction of grain elevators into India.

We have given the papers very careful consideration, and are of opinion that the measure is one worthy of support and encouragement.

56.

Messrs. ANDERSON, WRIGHT, & Co., to the DIRECTOR, Department of Land Records and Agriculture, Bengal, dated 12th March 1890.

Elevators unsuitable.

In reply to your favour of 3rd instant, *anent* Messrs. Ritchie, Steuart, & Co.'s scheme for the introduction of grain elevators.

The application of the American system to India is, in our opinion, not what is wanted, Indian wheat is all shipped in bags, whilst American goes to large extent in bulk, and the elevator is of no use where the bagged article is the rule.

This Messrs. Ritchie, Steuart, & Co. really concede, when they come down to proposing to open at a few stations and "conduct thereat simple cleaning and grading operations, returning the grain into bags properly secured."

Legislation advocated.

We think most firms having up-country connexions have tried this, but home-buyers and brokers are too powerful, and will not allow settlement to be made based upon the clean wheat. With an ordinary graded netting and a few coolies 100 tons daily can be turned out in any godown at a nominal expense without Government guarantee, and up-country firms, both native and European, would gladly see a market for clean wheat forced on exporters. This can be accomplished by Government enacting, both here and in England, that no contracts will be recognised in a court of law unless based on a price for pure wheat. We have pointed out again that there is no justification for the acknowledgment in Court of a contract for wheat with 5 per cent. or 10 per cent. adulteration. The only basis of sale recognised by law should be that of pure wheat, and were this the case, no up-country dealer would risk paying railway carriage on 5 tons of dirt for every 95 tons of pure wheat, and no buyer would accept of wheat without getting the full equivalent of the loss he would sustain on the refraction by sending the parcel forward to Europe. As long as the law recognises contracts for adulterated wheat, so long will the trade in it continue.

57.

Messrs. Balmer, Lawrie, & Co., to the Director, Department of Land Records and Agriculture, Bengal, dated 7th May 1890.

In reply to yours of 2nd instant, we think the proposed alteration deserving of the support of Government, as from the correspondence we gather that it will benefit the wheat industry.

We shall be glad to know whether we can be of any assistance to the proposed Company in Calcutta.

58.

From Government, North-Western Provinces and Oudh, to Government of India, No. 149—1-590 A., dated 6th June 1890.

I am directed to acknowledge the receipt of your communications noted below,* forwarding certain papers connected with the formation of a Company for the introduction of grain elevators into India, and asking for the views of this Government as to the encouragement that should be extended to the Company.

2. In reply, I am to state, for the information of the Government of India, that the papers were forwarded for opinion to the Director of Land Records and Agriculture, North-Western Provinces and Oudh, and to the Chamber of Commerce for Upper India, Cawnpore. Their replies† accompany this letter.

Elevators unnecessary up-country.

3. From the papers accompanying your letter it appears that the company do not at present propose to introduce into India the grain elevator system on the scale on which it exists in America. They propose to restrict their operations to a few towns on important lines of railway and to there conduct simple cleaning and grading operations, returning the grain into bags properly secured and covered by certificates as to quality and quantity. The Lieutenant-Governor agrees with the opinion expressed by the Director of Land Records and Agriculture, that all that the company thus propose to do for the ryot of India the ryot is well able to do for himself. The cultivator of the provinces thoroughly understands the cleaning of wheat, and as with him labour is cheap, there would be no inducement for him to take his grain to the elevators. The first thing to be done is to establish the demand for clean grain which the present conditions of the wheat trade have not yet introduced, and this the company can best do by establishing their elevators at the ports and not in the interior. If the company erect their elevators at inland towns, it will not be sufficient for them to clean the grain; they will be compelled to undertake, as grain merchants, the carriage of cleaned grain to the ports.

4. The Lieutenant-Governor considers it would be inexpedient to extend special privileges to a company which would enable it to monopolise the export grain trade of the country.

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* No. 122–127C.—Agri., dated 6th January 1890; No. 223C., dated 31st January 1890.

† From Director of Land Records and Agriculture, No. 1432, dated 5th April 1890; From Secretary to the Upper India Chamber of Commerce, dated 15th April 1890.

59.

From DIRECTOR OF LAND RECORDS AND AGRICULTURE, North-Western Provinces and Oudh, to GOVERNMENT, North-Western Provinces and Oudh, No. 1,432, dated 15th April 1890.

I have the honour to reply to General Order No. 117—1-590A., dated 20th January 1890, asking my opinion on the proposed formation of a company to introduce grain elevators into India.

2. I have discussed the subject with European and Native traders, and I have also had the advantage of consulting the traffic superintendent of the metre gauge section of the Bombay, Baroda, and Central India Railway, who arranged a meeting with me at Agra, and was able to give me valuable information as to the existing conditions of the wheat trade on his railway.

3. I need not dwell upon the obvious advantages which would result to India if Indian wheats could be placed on the English market in better condition than is now the case. It has, however, been proved, beyond doubt, that the main hindrance to improvement is not the Indian cultivator, but his European customers. If the London and Liverpool Corn Associations would insist on a higher standard in contracts for Indian wheat or would alter the practice by which deductions can be claimed by the buyer on account of the alleged existence of impurities, the Indian cultivator would improve the character of his wheat. Labour is cheap with him and grain-cleaning is well understood in his household. It is because the local dealers will not give him a higher price for clean wheat that he takes no trouble to clean it and even resorts to the device of loading it with dirt. What the Grain-cleaning and Elevating Company propose to do for the ryot's grain the ryot can himself do, provided the conditions of the export market remain unaltered. No ryot and no local dealer will be at the expense of taking grain to the Company's premises and receiving it back again in a cleaned state, unless there is a renmuerative demand for this special class of grain. No ryot or local dealer could get a higher price for his cleaned grain received back by him from the Company, because his customers would have no guarantee that after it had been bagged and certified the seller may not have adulterated it. It follows that if the Company is to do any business at all, it must from the outset undertake the handling and transport of grain from the local markets to at least the port of export, and must further be in a position to create a special market in England or in Calcutta and Bombay for the certified product. The half measures to which the promoters suggest that operations should be confined* at first will not answer, as it is impossible to "secure a bag" or to satisfactorily cover it by a certificate if this bag is to be returned to the local dealer. The promoters must from the first not only clean grain, but arrange for its despatch by rail direct either in bags or in closed waggons from their premises to the shipping port.

Ryot can produce clean grain for better prices.

Company must purchase and export, not merely clean the grain.

4. I pass to the terms which the promoters ask for from Government in Messrs. Ritchie, Steuart, & Co.'s letter of the 17th September. On the second page of the printed papers they ask for the assistance of Government under five heads, and following this they ask for "rights" or concessions under nine heads. The first form of assistance sought is that the grain certificates should be signed by Government officials. I do not think this can be granted. No Government official has time for this work in addition to his own duties, nor does any Government official know the details of the grain-classing business. Even if Government were to agree to appoint and pay the salaries of special officers, who are to look after them?

Government securities.

Temptations to dishonesty would be frequent, and it would not be to the ultimate credit of the State to have anything to do with these grain certificates unless it be prepared to go to great expense in securing adequate supervision. The most under this head that could be offered is that the premises should be inspected by an officer of the Provincial Service at frequent intervals and his report made public. The report, however, would not carry any Government guarantee.

5. Free lands for sites could in most cases be found within the Railway Companies' fences, and probably the Companies would not object to surrender land within reasonable limits free of cost if the Government of India wish this and convey some assurance

Free land for sites.

* "We would propose to select a few stations on some of the principal grain-carrying railways, and to conduct there simple cleaning and grading operations, returning the grain into bags properly secured and covered by certificates, as to the quantity and quality, thus discarding the idea of the grain elevator proper."

that the case will not form a precedent for similar demands on behalf of other Companies. A Railway Company would no doubt be inclined to consider each case on its merits, especially with reference to the possible destination of the grain. The North-Western Railway, for instance, would object to give land at Ghaziabad for an elevator if all the grain cleaned in it was likely to go to Calcutta by the East Indian Railway. In some towns land might be acquired by Government near a railway at not excessive cost. It is questionable, however, whether in default of amicable agreement resort could be had to the Land Acquisition Act.

Guarantee against other Companies.

6. The guarantee might be limited somewhat as follows: the Railway Company or Government or both to agree that it would not give or lease land to another grain Elevator Company or afford to such Company special loading or unloading facilities within a term of ten years in or near any town situate on the particular railway in which the present promoters construct a grain elevator of suitable capacity and suitably equipped. If an elevator is considered by the Railway to be needed at any place on the line where the Elevator Company has not put one, the Elevator Company should be given the option of putting an elevator there before land or facilities are given to another Company. This guarantee would not prevent other persons from acquiring land privately, and building elevators for themselves without the assistance of Government or the Railway. I presume a guarantee of this kind could be legally given by an Indian Railway with the consent of the Government of India, although it involves some apparent departure from the principle that a Railway acts strictly as a public carrier and is bound not to give preferential facilities to one person over another.

Guarantee to extend to every Indian Railway.

7. As to the fourth head of assistance, the Company might be allowed to make its terms with each railway separately.

Interest guarantee.

8. This might be conceded for a limited term of years and on a limited capital outlay.

9. I now come to "rights." These so-called rights are really of the nature of restrictions on the right which the promoters by law would have to trade and levy charges. In return for free land and certain guarantees the promoters would bind themselves to trade in particular ways only and to limit their charges. As my idea is not to give the Company a monopoly of grain-cleaning trade, or connect it closely with Government, but merely to help it at the outset with free land, a limited guarantee for interest and the like, I should not be disposed to impose conditions as to charges or on the character of its business. If its charges are high, its cleaning sheds will not be used; or if they are used in spite of high charges other persons will build similar cleaning sheds on private land near the railway station. The promoters, if they are well advised, will not "advance money to ryots on the security of their lands or crops."

10. The general feeling of Europeans and natives engaged in the grain trade is that the promoters should not acquire an exclusive legal privilege of erecting cleaning houses or elevators in any town or place in India. Subject to this consideration it is thought that Government or the Railway Companies might reasonably assist the promoters by free grants of land, transport facilities, and the like. I agree with this view and have made my suggestions in accordance with it.

11. Of the three Railways to which the promoters would at first confine operations, the Bombay, Baroda, and Central India Railway alone concerns these Provinces. On that Railway, Sirsa, Delhi, and Hathras would be the places at which elevators could be established with the best prospect of success. At Agra there is no wheat trade. On the North-Western Railway, Meerut would be an excellent place.

60.

UPPER INDIA CHAMBER OF COMMERCE, Cawnpore, to GOVERNMENT, North-Western Provinces and Oudh, dated C., 25th April 1890.

I am directed by the Committee to acknowledge receipt of your letter No. 116—1-590-A., dated the 20th January, and to express their regret at the delay that has occurred in replying to the same. This, however, I am to say, has been unavoidable owing to the many important considerations and interests involved in the question.

2. The proposed scheme has been laid before various leading grain-dealers, European and native, and they as a body appear to be of opinion that the establishment of elevators and cleaning depôts at the ports would be of advantage to the country, as the result should be to increase the European demand by improving the quality, and so give direct encouragement to the production of wheat in India. The elimination of freight and charges on dirt, of which 52,000 tons were shipped during the last official year, would alone substantially benefit the producer, even supposing that the higher price obtained for purer grain would do no more than cover the cost of cleaning it. Scheme deserves support.

3. Strenuous objections, however, are urged against granting a monopoly such as the proposed Company seek to acquire from Government. The Committee, therefore, on behalf of the interests which they represent, beg respectfully to protest against any proposals in this direction being entertained which would eventually tend to place the entire control of the wheat trade in the hands of a State Guaranteed Association. No monopoly.

61.

GOVERNMENT, Punjab, to GOVERNMENT OF INDIA, No. 59, dated 24th March 1890.

In reply to your letter No. 122 of 6th January last, forwarding for consideration certain papers relating to the formation of a Company for the introduction of grain elevators into India, and the issue of certificates of the quality of grain, I am directed to forward, for the information of the Government of India, a copy of the papers noted below,* and to say that the Lieutenant-Governor does not think that he can offer any opinion upon the subject until the concessions which the Company seek are much more clearly defined. It would obviously be impossible for Government to give any assistance to a trading firm in regard to many of the so-called rights which the promoters wish conceded to them.

62.

DIRECTOR, Department of Land Records of Agriculture, to GOVERNMENT, Punjab, No. 292, dated 26th February 1890.

In reply to your letter No. 11, dated 20th January 1890, forwarding Circular No. $\frac{122-127\text{-C.}}{\text{Agriculture,}}$ from Mr. Muir-Mackenzie, Under Secretary to Government of India, I have the honour to forward copies of opinions received from the officers noted below.†

The officers in question have all replied very briefly with the exception of Mr. Nicholl, Secretary to the Amritsar Municipal Committee whose note, as he is well acquainted with the circumstances of the local wheat trade, is worthy of attention.

My own opinion on the subject, which has been asked, is that every reasonable encouragement should be given to the scheme for the introduction of wheat elevators into India. I have watched the discussions on the Indian wheat trade, which have lately been going on in England, with great interest, and I am convinced that the Government of India will be well advised to do all in its power to enable buyers to get a purer wheat than they do at present, if they are in earnest in so desiring. Encouragement of clean wheat.

I am convinced, from all I have heard lately in this province and from what I myself saw in the wheat-producing districts in which I have served, that a very large proportion of the dirt and impurities which are now to be found in wheats shipped from India are not due to sweepings from the threshing floor and the mixture of extraneous grains owing to careless cultivation, but to deliberate admixture of other grains and dirt by the middlemen; and so long as buyers will accept, say, 7½ per cent. of various impurities, a seller who gave wheat with only, say, 5 per cent., would be deliberately throwing away money. The introduction of the elevator would have this immense advantage, that it would open the eyes of all buyers, sellers, and millers to the exact state of affairs, and would make it possible for those who desire to sell a cleaner wheat to do so without losing by the transaction. Deliberate adulteration.

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* Letter of Director of Land Records, Punjab, No. 292, of 26th February, and enclosures.

† Commissioner and Superintendent, Lahore Division. Commissioner and Superintendent, Delhi Division. Commissioner and Superintendent, Derajat Division. Deputy Commissioner of Lahore. Deputy Commissioner of Rawalpindi. Secretary to the Amritsar Municipality.

I think that the Government of India should be prepared to run even some risk of loss in an endeavour to raise the reputation of Indian wheat and the Indian wheat trade.

Opinion on concessions required.

With regard to the details of the scheme, I feel more diffidence in offering an opinion. I should have thought that the Punjab, with its North-Western Railway running from Peshawar to Karachi entirely under State control, would have offered special facilities for the commencement of operations, but of this of course the Company are far the best judges.

In regard to the matters in respect of which assistance from Government of India is asked for on page 2 of the printed papers, I do not quite understand what the countersignature of the certificates would amount to. As to No. 2—The free provision of land—I should imagine that it would be quite impossible to accede to this, as the land asked for would in many cases be exceedingly valuable and the property of large Corporations or Companies, and of individuals—rarely of Government. All that could be done would be to assist the Company to obtain such land on reasonable terms. Nos. 3 and 4—This seems to me to be asking a good deal, and any such concession granted should, I think, be accompanied by a corresponding obligation on the part of the Company to erect elevators wherever they are called upon by the Government of India to do so. 5—This, I think, the Government of India might reasonably be asked to do. The sum risked is, after all, only 5,000*l.*, and the possible advantages are worth a great deal more than this.

As regards the rights asked for, I have nothing to say as to 1, 2, 3, 4, 5, or 6. As regards 7, I would confine the right to make advances to ryots, to advances on the security of crops. I would not permit advances to be made on the security of their land to farmers in the Punjab at any rate. To 8 and 9 I think little exception can be taken.

It is feared that the "middlemen" will oppose the scheme.

Opposition of middlemen.

I am not sufficiently acquainted with all the intricacies of the trade to offer an opinion of any value as to this. I think it would not be difficult to ascertain the views of large buyers like Ralli Brothers and others on the point. But it appears to me that middlemen, whose assistance in the wheat trade is so absolutely essential, and without whom it would never have reached anything like even its present stage of development, will have no interest in opposing the scheme.

Naturally if a middleman finds, as at present, that the price of the wheat he sells is regulated by the supposition that it contains a certain proportion of dirt and impurities, he will take good care that he supplies duly the proportions of wheat and impurities expected. But if the wheat he has to sell is certified on authority accepted by the trade to contain only a certain portion of impurities, he can demand, and I fancy, would very soon be able to command, a correspondingly higher price.

One other point only I would wish to refer to. The Company will have to be very careful from the outset to see that their certificates merit and command the absolute confidence of the trade, and to do this they will have to see that the employés whose duty it is to grant these certificates are men of skill and integrity, and are sufficiently well paid to be above all suspicions even of temptation, which will be very great.

63.

COMMISSIONER AND SUPERINTENDENT, Delhi Division, to DIRECTOR, Land Records and Agriculture, Punjab, No. 88, dated 8th February 1890.

In reply to your No. 160—1–14 of 31st January 1890, that an industry of the kind proposed should stand on its own bottom.

2. The only concession should be No. 3 of those asked for. The rights detailed below the concession asked for need no granting that I can see; what is meant probably is sole rights, and the effect of concession 3 would be to limit such rights to the first Company exercising them.

64.

MUNICIPAL COMMITTEE, Amristar, to DIRECTOR, Land Records and Agriculture, Punjab, No. 66, dated 10th February 1890.

I am in receipt of your No. 160, dated 31st ultimo, forwarding, for my opinion, printed papers relating to the "introduction of grain elevators into India."

2. I have no doubt the system possesses all the advantages claimed for it, but its adoption by wheat-growers in the Punjab I consider most unlikely for the simple reason that the conditions of America and this part of India are totally different. Conditions in America and India differ.

3. The condition of the wheat brought to Amritsar and other markets in adjoining districts has much improved of late years, and the growers are fairly honest in their transactions; it is the middleman who adulterates by mixing barley and foreign matter with wheat, and he will continue to do so, so long as the trade is prepared to accept the produce with a liberal allowance of refraction.

The refraction at present allowed by exporters is 5 per cent. barley, and 2½ per cent. dirt. This, however, is to be altered with the new crop of 1890. The standard fixed by the London and Liverpool Trade Associations for Karachi wheat is 7 per cent. impurities and 2 per cent dirt.

4. One of the many advantages claimed by the promoters of the elevator system is depriving others of the opportunity of mixing and profiting by an adulteration of dirty sample; this advantage in itself would be enough to create a strong opposition by the host of middlemen engaged in the trade, to the introduction of the system, and their opposition, considering the terms on which they work with the growers, could not be overcome by any Company, however strong. Middlemen.

5. One of the rights asked for by the Company is to advance money to the ryots on the security of their lands, crops, etc.; this measure alone I view as being quite beyond the power of any Company to carry out with success. The field is already, it will be found, occupied by the village "Shah."

6. While I admit that the system is an excellent one where the growers are independent, I see many insurmountable obstacles to its introduction into this part of India. I can see only one chance for the extension of the Company's operations in these parts, and that is by enlisting the co-operation of the large buyers, such as Ralli Brothers, McHinch & Co., and others. Were these firms to adopt the system at their principal centres, they would save large sums in freight and reap the other advantages offered by the Company in the sampling and improvement of wheat. But any attempt to deal direct with the grower and the village money-lender to the detriment of the middlemen must fail. Co-operation of large buyers.

65.

GOVERNMENT OF PUNJAB to GOVERNMENT OF INDIA, No. 30 S., dated 26th May 1890.

In continuation of Mr. Fanshawe's letter No. 59, dated 24th March 1890, I am directed to forward, for the information of the Government of India, a copy of a letter No. 650, dated 2nd May 1890, from the Director, Department of Land Records and Agriculture, Punjab, with a copy of its enclosures, on the subject of the introduction of grain elevators into India.

66.

DEPUTY COMMISSIONER, Delhi District, to DIRECTOR, Department of Land Records and Agriculture, Punjab, No. 264, dated 27th February 1890.

In reply to your No. 160—1–14 of the 31st January 1890, I have the honour to forward copy of a note in which I have recorded my views on the subject of the introduction of grain elevators into India.

Note.

It is premature to think of introducing the elevator system into India until a satisfactory understanding has been come to on the subject of refraction. Scheme premature.

There is no doubt that even without the elevator system, good clean grain could be supplied by the growers, and it would be supplied if it were not so ruinously against their interest, as the trade is at present conducted, to do so.

As everyone knows, the standard of refraction for Indian wheat is absurdly high, but it is kept at its present figure by the action of the London and Liverpool Associations. Let them, in communication with the export firms, lower the standard of refraction and agree only to deal in good classified grain of the standard decided upon, and grain of that quality will be forthcoming.

With the cheap labour that is available in India, machinery can never compete up-country with hand labour for cleaning and moving the comparatively small quantity of grain that passes in one day through an up-country station.

Might be tried at ports.

An elevator at the port of export and the substitution of bulk for bags in the shipping trade might be an improvement, but even the promoters are not sanguine as to the possibility of doing away with bags before the grain reaches the seaboard.

The promoters of the company also seem to under-estimate the extent to which the export houses deal direct with growers through their up-country agents; the only middleman as a rule being the *"Árthi"* or commission agent, who receives a small commission for indispensable services rendered.

The Indian grower cannot afford to hold his grain or to accept and negotiate elevator warrants. What he wants is hard cash, and that he receives now as soon as his produce is weighed over in the open market.

67.

OFFICIATING COMMISSIONER AND SUPERINTENDENT, Rawalpindi Division, to DIRECTOR, Land Records and Agriculture, Punjab, No. 700, dated 8th March 1890.

Limits of Government aid.

In reply to your No. 160—1–14, dated 31st January 1890, on a proposal to conditionally introduce the American grain elevator system in India, I have the honour to say that as the undertaking will not affect the Punjab until it shall have successfully emerged from the experimental stage, I do not think any detailed opinion on the question will now be of much value. It seems to me out of the question for Government to do more at the present stage than promise the Company, if formed, its general goodwill and a careful consideration of any reasonable application put forward in a detailed manner. The Director of Railways concerned will doubtless, in self-interest give the Company facilities for the conduct of its business. If the speculation is sound it will succeed by its own merits; if unsound, the exceptional concessions demanded as a preliminary to the formation of the Company on a small experimental scale, if granted, would not make the scheme a success. At present from the papers before me, I think the promise of the aid of Government has been prematurely sought.

68.

AGENT to MESSRS. A. MCHINCH & Co., Ferozepore, to DEPUTY COMMISSIONER, Ferozepore, dated 20th April 1890.

I beg to thank you for sending me the Government of India Circular No. 122—127 C. Agri., with accompanying letters, &c., on the above subject. I regret very much that I have not been able to reply earlier, and am sorry that I have been disappointed in my desire to make some inquiries at out-stations before doing so.

Prospects of success small.

The advantages enumerated in Mr. J. G. Smith's letter, dated Liverpool, 17th September 1889, and advanced as argument in support of the project, would probably be the result of its introduction, but I believe it will be a long while before any appreciable effect can be produced by it, while this district, at all events, is certainly not advanced enought to appreciate it. In fact it appears to me to be very doubtful for the system to gain a footing at all, since it aims at revolutionising all the ideas so deeply rooted in native minds regarding the manipulation and sale, &c., of their grain; and people like those of India are certainly not the ones to easily relinquish their ancient practices and customs handed down from father to son. But no doubt a company undertaking such a thorough renovation of the cultivation of and trade in grain as is proposed will take into consideration all the difficulties, &c., they will

have to encounter, bearing in mind that unforseen obstacles may arise which might upset the best considered arrangements.

With regard to the extension and improvement in the cultivation of wheat, I do not think that the proposed system will effect more than what is going on at present.

The production of wheat has vastly increased during the past few years while the area under cultivation is continually expanding. This is due to the increasing demand for export, and to the encouragement and facilities offered by Government in the extension of irrigation canals and the improvement of the cart-roads.

I believe Government have also spent large sums of money in endeavouring to improve the Indian agriculturist in his system of cultivation. If Government with all the machinery at its command has so far met with ill-success I think a Company with limited means, and moving within prescribed bounds, is scarcely likely to effect much.

In my opinion the buyer or exporter is the person who can best work towards the improvement in cultivation, because he can insist on getting a good quality and class of wheat. The cultivator very soon appreciates the difference in price paid for good and bad wheat, and will naturally do his utmost to work up to the standard from which he gets the best value.

Faults of trade.

At present, however, I believe exporters themselves mix barley dust and indifferent or bad wheat into good grain, in order to take advantage of the liberal standards of admixture and impurities fixed by the corn trade associations at home and accepted by the buyers there. This doctoring of the wheat has in some instances been done openly and in the presence of the very men whom it is now desired to improve both in their trading morality and their system of cultivation. Under circumstances such as these it is to be expected that the native trader or cultivator will try to secure all the profit he can for himself, not only by adulterating it before he brings the wheat to market, but also by spending as little as he possibly can on its production.

It appears to me that since the demand for more wheat has caused an expansion in its production, so a demand for purer and good wheat will effect an improvement in its cultivation and quality. But so long as the English market is content with a low standard of cleanliness and purity, and no pressure is brought to bear on the Indian exporter or shipper, so long will the latter continue to ship impure and dirty wheat, notwithstanding the means within his reach of getting a cleaner and better article.

I do not see how one Company, unless it has a monopoly of the entire wheat business of India, can by itself and unaided or unassisted by other exporters, change the existing conditions of trade, especially in the face of the opposition it is certain to encounter from those exporters whose interests will be assailed.

Combination of exporters for improvement.

The best way to put the wheat trade on a firmer and more satisfatory footing is, I think, to invite the straightforward co-operation of all exporters, in shipping good, pure, and clean wheat, and at the same time request the European buyers to raise their standards of purity. It is vain for one company, be it ever so well-organised and equipped with elevating and cleaning machinery, and receiving all the very liberal concessions that this one requests, to try and effect reforms, where perhaps the largest interests are strongly against them.

On the whole I am of opinion that the benefits enumerated in the letter before me will scarcely be the outcome of the erection of grain cleaners and elevators, but depend on the efforts of the parties in whose hands the business lies, namely, the buyer in Europe, and the shipper in India.

Concessions required extravagant.

The concession and assistance which the proposed Company require from Government appear to be rather out of proportion to the benefits and advantages which they expect to confer. The countersignature of Government officials on the Company's certificates will, I venture to think, be scarcely accepted as a guarantee in commerce circles. And should the article purchased fail to come up to the terms of the certificate, from whom will the buyer be able to recover the difference in value,—from Government or the official who signed the certificate?

Again, certificates a couple of months old will not show to what extent the grain has suffered from weevils or other insects.

The free provision of land is a question that may be conditionally entertained where public money would not have to be spent in acquiring it, or it might be left to the Railway Companies and Port Trusts who are likely to benefit by the concern.

That facilities similar to those which may be granted to this Company should not be granted to any other Company or individual for a period of 25 years is, in my opinion,

quite out of the question, as it would be an endeavour to secure a monopoly to this one Company against all preconceived ideas of fair play.

The same may be said of the request for a grant of similar concessions at every grain-shipping port, and along every line of railway built or to be built through the grain-producing districts of India.

I fail to see on what grounds the request is made for a guarantee of interest at the rate of 4 per cent. per annum for the first five years of the Company's operations, same being repayable without interest from half of the surplus profits over 6 per cent. But supposing there are no surplus profits over 6 per cent., who is to bear the burden of such advances?

Such payments will be made out of public money, and therefore should only be made in return for some general public benefit; but in this case benefits will only accrue to State and private railways, Port Trusts, the Wheat merchants, and the Home consumers. These, however, do not form the ratepaying population of India, and it would be unfair to make the last-named pay for benefits which it is supposed the others will enjoy.

I think on the whole that a private enterprise of this nature should be able to look after its own interests in the same way as all other private enterprises do, and the promoters should be in a position to demonstrate to their shareholders that the venture will be a paying one.

The very fact of them asking Government to guarantee 4 per cent. annually leads one to suppose that they themselves are uncertain or have but little faith in its success.

I have before said that I do not think the Company will meet with much success here, and my reasons for saying so are as follows :—

How the ryot threshes and sells.

The cultivation of wheat is carried on by individuals, the bulk of whom have only small holdings of land or are merely tenants; each one keeps a certain number of cattle for the purpose of ploughing and watering the land, threshing the wheat, and carting same to any one of the grain markets within his district, where he thinks he is likely to realise the best value; he has no fixed market of resort, and therefore cannot be depended on to take his produce to any one station where the Company may have its machinery and warehouses. The cleaning is done by the members of his family, and he stores the wheat either in his own godown or in others for which he pays a nominal rent in his own village. All this manipulation of the grain costs him nothing, but if he used the Company's machinery he would have to cart the wheat some distance to be cleaned and graded, for which operations he would have to pay as well as for the storage of the wheat.

From my knowledge of the native, I may say he is not the one to pay in advance or even enter into an agreement to pay later on for some possible advantage which he may or may not achieve at some future date.

In conclusion, I beg to say that while the Company deserves every encouragement and help to attain the objects which it has in view, such help should be given to them only where it does not trench upon public or other interest.

From my own experience I know that clean and good wheat is to be got here, and if the European buyer will only pay for it, I am certain the country will soon rise to meet him, and be able to supply any quality he wants. It will then be in a position to adopt systems such as that now proposed.

I have given my individual opinion as regards this part of the country, and while I feel honoured at being asked for it, I trust it will be taken as given without prejudice.

69.

GOVERNMENT, Punjab, to GOVERNMENT OF INDIA, No. 130, dated 4th September 1890.

In continuation of my letter No. 30 S., dated the 26th of May 1890, I am directed to forward, for the information of the Government of India, further correspondence* submitted by the Director, Department of Land Records and Agriculture, regarding the introduction of grain elevators into India.

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* From Director, Department of Land Records and Agriculture, Punjab, No. 1,332, dated the 18th August 1890, and enclosures.

70.

DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Punjab, to GOVERNMENT, PUNJAB, No. 1332, dated 18th August 1890.

In continuation of my No. 292, dated 26th February 1890, on the subject of the introduction of grain elevators into India, I have the honour to forward copy of the correspondence noted below.*

These replies to my No. 160–1–14, dated the 31st January 1890, were only received on 4th August 1890.

I would draw attention to the report of the Sub-Committee of the District Board of Ferozepur composed entirely of natives of this country as of special interest.

The account given of the deliberate admixture of sand by zamindars on their way to market is, I regret to say, only in too complete accord with what is generally reported, and has indeed become a matter of "common notoriety."

71.

COMMISSIONER AND SUPERINTENDENT, Jullunder Division, to The DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, Punjab, No. 2102, dated 4th August 1890.

In reply to your No. 160–1–14, dated 31st January last, forwarding for opinion a copy of Government of India's Circular No. 122–127C., dated 6th idem, with enclosures, relating to the formation of a Company for the introduction of grain elevators into India, I have the honour to say that I consulted the several Deputy Commissioners in this Division on the subject, and am now in receipt of replies from all.

2. A copy of the reply of the Deputy Commissioner of Ferozepore with its enclosures in original, and of that of the Deputy Commissioner of Ludhiana are enclosed. The Deputy Commissioners of Kangra and Jullunder have no remarks to offer, while Mr. Dane, as Deputy Commissioner of Hoshiarpur, wrote that in his opinion "the "concessions demanded by Mr. Smith are so extravagant that the scheme in its "present form hardly merits encouragement."

Concessions unreasonable.

3. My views coincide generally with those expressed by Mr. Dane and the Secretary to the Ferozepore District Board. The grant of sites free of cost and rent for the Company's premises at up-country stations might, I think, be given; but the other concessions demanded are scarcely reasonable. Unless the Railway Administration can arrange for the counter signature of certificates, I do not see that any other suitable Government agency is available. The grant of a monopoly for 25 years to an irresponsible Company, working for its own profit, can scarcely be a wise measure, and the guarantee of an interest of 4 per cent. per annum for five years, when the rising value of the rupee is likely to check the export grain trade, may cause considerable loss to the State.

4. If the Company can supply a want felt by grain merchants in England, the improved prices which grain covered by its certificates may enable it to command should, in the course of time, attract all grain to its elevators, so that the Company should be able to reap a handsome profit without any extraneous aid.

72.

REPORT OF SUB-COMMITTEE OF THE FEROZEPORE DISTRICT BOARD.

We think that we can only speak of the Punjab and not of the whole of India as regards the need of grain cleaners and grain elevators in the Province.

Growth and practice of wilful adulteration.

The Punjab is one of, if not the most important, grain-producing and go-a-head province of the vast Indian Empire, and we are sure that not only the cultivator but the trader both in and out of India as well as the Government are interested in establishing some proper system whereby the rapidly increasing evil practice of adulterating wheat could be stopped; that this evil is daily growing is admitted freely

* No. 2102, dated the 4th August 1890, from Commissioner and Superintendent, Jullunder Division, with enclosures.

by all. Not more than 20 years ago the zamindar brought the pure and unadulterated produce of his land to the market, got its value, and went back to his village without ever feeling the necessity of mixing dust, &c., with his beautiful wheat. It was a matter of laudable pride with the zamindar to exhibit his wheat in the open market by plunging his hand deep into the big heap, and showing a handful of the grain *without* any visible sign of dust; whereas now, while the cunning *bunya* is inventing all sorts of ways to cheat the once rough and open-hearted zamindar, the latter has by experience learnt to avenge himself on the trader by mixing dust with his grain before his cart enters the gate of the town; the writer has seen with his own eyes a string of carts standing on the road and about 20 zamindars, who had deliberately brought baskets and mattocks with them from home, coolly digging *fine* sand from a large heap and like trained men emptying their baskets in their carts full of grain; and it should here be remarked that the zamindar while loading grain at home leaves room in his cart for the dust and fine sand which he expects to mix before he has approached the suburbs of the town in order to avoid carrying dust as far as possible; and the reason why they mix fine sand is that it cannot be so easily detected, inasmuch as it does not soil the hand or cloth as real dust would. Sand being heavy and more like a particle of stone than anything else does not show itself in a heap of grain. While this struggle is going on between the *bunya* and the cultivator a third party has stepped in, *i.e.*, the foreign merchant, who was first heard of in Karrachi, but has now gradually come in close contact with the cultivator, deals direct with him, and considering the advantage that Europe has over India from all points of view, every one expected naturally that something will be now done to put a stop to this trade in dust and fine sand instead of pure produce of the country; but while one sees a great many grain sifters and other machines round about the place of the foreign trader, one is sorely disappointed to see the result, *viz.*, the complaints about the adulterated wheat of India are getting louder and louder, therefore evidently the evil is getting a strong hold of all concerned; and, as everywhere so in India, self-interest predominates, thus it is proved beyond doubt that unless Government take *active* interest in this matter things will most probably go from bad to worse. And perhaps it is not impertinent to say that had the foreign trader set a better example, both the cultivator and the *bunya* would to a certain extent have been compelled to follow it: and while we agree generally with the remarks so ably made by the Secretary of the District Board, we are far from thinking it to be advisable to "let the Company shift for itself," and, while we would on no account like to see the enterprising Company (who have made the offer) monopolise the business, we would hail the introduction of grain elevators in this country on some modified and generally beneficial terms; and as we do not feel ourselves competent enough to discuss on the terms offered by the Company, we leave it to the proper authorities. All we beg to say is that the evil is growing, and the sooner the system proposed to clean the grain is introduced the better, only of course the Company ought on no account to be allowed to have such privileges that would interfere with "the free and fair trade" under British rule.

73.

REMARKS by SECRETARY, DISTRICT BOARD, Ferozepore, on the MEMORANDUM of J. G. SMITH, ESQ., on the introduction of GRAIN ELEVATORS into INDIA.

Advantages claimed by scheme criticised.

(1.) The reputation of India as a wheat-growing country is already an established fact, and is yearly gaining ground, while no other country can compete with it as regards cost of production.

(2.) The extension and improvement of the cultivation is at present greatly accelerated by the extension of canals through desolate tracts of country which never had the slightest chance of being brought under cultivation otherwise.

(3.) If an exporter is determined on adulterating the wheat he can do so after it has passed through the elevators, unless the Company monopolise the entire wheat trade and become the exporters themselves.

(4.) The elevators will be erected near the railway stations and facilities for handling, storage, &c., will only effect the Railway Companies, as the cultivators will still have the expense and trouble of carrying the wheat there to be stored, which means a great deal in a large country like India, where road communications are yet in their infancy.

(5.) The borrowing and lending of money on the grain crops will continue as heretofore, whether the Company exists or not, as the cultivators are under heavy bonds of obligations to the village *bunyas*, who will no doubt take precautions against their hold being weakened.

(6.) Advantage No. 6 appears to be in contradiction with concession No. 3 when it stipulates for a guarantee of monopoly for 25 years.

Anticipated effects.

The benefits would he exclusively confined to Railway Companies, Port Trusts, and other parties concerned, who would no doubt look to there own interests.

India generally would be benefited as a wheat-producing country if the buyer at home would insist on getting a purer article than he at present accepts.

It is an open secret that the wheat can be and is purchased pure, but is adulterated by the exporter to the standard of impurity accepted at home.

The primitive method of cleaning and the low rate of wages in this country would be found cheaper than the advanced and complicated machine cleaner. Moreover, it is not stated what steps would be taken to prevent the wheat from being attacked by "weevils," as these insects get at the wheat very soon after it has been stored, and this injury is even more to be considered than the admixture of dirt, as it destroys the grain altogether. It is also not stated whether the cleaner can remove foreign grain such as barley, grain, &c.

Concessions.

Some steps are being taken to insist on a purer demand for Indian wheat, as may be seen from the letter of the Secretary to the London Commercial Trade Association, published in the "India Morning Post," Saturday, 7th December, 1889, page 10.

(1.) The countersignature of Government officials would hardly be a sufficient guarantee to merchants, as Government officials are already overburdened with work, and their signatures would probably become a matter of routine; besides it is hardly fair to require a Government official to become a grain expert in addition to his other professional duties.

(2.) The free provision of land to the Company might be made by the Railway Companies in consideration of the facilities for handling, concentrating and increasing the railway traffic. The elevators would be built of course on the railway premises.

(3.) The monopoly is against all ideas of free and fair trade.

(4.) The concession here asked for may be made only where the Company may be actually working.

(5.) The subject is hardly of such vital importance to the country to guarantee an interest of 4 per cent., and is after all a commercial speculation of dubious advantage to a country subject more or less to famine, during which time it would be more advantageous to retain the wheat in the country and not export it all.

The rights which the Company ask for will of course depend upon the basis upon which they start their business.

In conclusion, it may be added, that it would hardly be fair to burden the rate-payer of India with a commercial speculation of this nature, and it would be far healthier to let the Company shift for itself.

74.

DEPUTY COMMISSIONER, Ludhiana, to COMMISSIONER and SUPERINTENDENT, Jullunder Division, No. 206—1148, dated 28th June, 1890.

In compliance with your Cicular letter No. 25—364, dated 6th February 1890, forwarding for opinion certain papers regarding the introduction of grain elevators into India, I beg to state that this district never occupied such a position in the grain traffic of India as to render local experience of much value in regard to the very large question under discussion, and since the opening of the Patiala-Bhatinda Railway Line any importance Ludhiana possessed as a centre of business has diminished.

2. I will take leave however to suggest that the scheme of the Grain Cleaning and Elevator Company for India is open to all the objections which attach to monopolies under State aid and assistance, and that any benefit to India as a wheat-producing country would be dearly purchased by the vicious practice of artificially fostering certain classes of productive industry at the expense of other industries and other countries, and in short that the subject is one for gradual development by private enterprise alone.

75.

From Chief Commissioner, Central Provinces, to Government of India, No. 4743 S.—88, dated 18th November 1890.

Government interference undesirable.

Referring to your Circular No. 122–127 C., Agriculture, dated 6th January 1890, and subsequent letter No. 225 C., dated 31st January 1890, regarding the introduction of grain elevators into this country, I am directed to forward copies of the below-noted papers on the subject,* and am to say that the Chief Commissioner thinks that the reform of the Indian wheat trade must be left to those interested in it, and that he is entirely opposed to Government interference, and especially to the attempt to create a monopoly such as is asked for by Mr. J. G. Smith. There are already large and influential firms interested in the export of wheat from these Provinces who may be quite trusted to take such steps as are necessary to secure clean wheat, as soon as the trade at home puts matters on a sound basis. The idea of a Company like that proposed attempting to deal directly with the royts and to enter on the business of money advances appears to Mr. Mackenzie to be quite chimerical; and he can see no reason why it should be guaranteed by Government or receive any specially valuable concession such as is asked for in Mr. Smith's letter. The Government might help any such Company to acquire land on reasonable terms; but commercial enterprise now-a-days stands in no need of being bolstered up by Government in the way suggested.

76.

Note by the Commissioner of Settlements and Agriculture, Central Provinces.

Prices for clean wheat.

The principal object of the scheme is, I understand, of the condition in which Indian wheat reaches the European market. The Government of India is fully aware of the main reason why Indian Wheat is now despatched to Europe in an impure state. Wheat is not cleaned—and, indeed, wheat is purposely adulterated—because, owing to the conditions of the wheat trade, people are paid no more for clean wheat than for wheat containing an admixture of dirt or other impurities. Nor does such an admixture involve a penalty, so long as it is within a certain per-centage. Were exporters paid according to purity, wheat would be exported in a very much cleaner state than it is at present. And until prices depend upon purity, the introduction of grain elevators cannot be expected to add to the purity of the wheat.

2. Assuming, however, that the introduction of elevators would lead to a fall in the refraction limit, so that exporters would be penalized for a less amount of dirt than is passed at present, Indian wheat would of course gain in reputation and possibly in price. At all events the trade would no longer be burdened by the gross waste of money which now occurs in the payment of freight on thousands of tons of dirt which are shipped to England. It is doubtful whether, as matters stand at present, the introduction of elevators would benefit these Provinces by adding to the demand for wheat. The demand is already sufficiently strong to withdraw all surplus produce. It is claimed by Mr. Smith that elevators will be of advantage in rendering it possible for producers to export direct instead of through middlemen. But in the present state of affairs there seems small probability of this. According to the custom of the country, production is the business of one class of people and trading in produce is the business of another class. Cultivators very rarely take a hand in exporting their produce. And the only connexion which traders as a rule have with agriculture arises from their money-lending transactions, which enable them to get cultivators into their power, to dictate to them what crops are to be grown, and to annex the whole of the produce.

Demand sufficiently strong for all surplus produce.

The experiment well worth undertaking.

3. It is, however, extremely difficult to predict in a case like this what would be the effect of introducing a new set of circumstances, and an experiment would be well worth undertaking. Government would be justified in doing what it could in reason to assist persons in making such an experiment. It might reasonably grant a

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* Note by the Commissioner of Settlements and Agriculture, Central Provinces; 2. Letter No. 1162, dated 12th March 1890, from the Commissioner, Jabalpur Division; 3. Letter No. 1717, dated 24th March 1890, from the Commissioner, Narbada Division; 4. Letter No. 2958, dated 2nd May 1890, from the Commissioner, Nagpur Division, with annexures from the Deputy Commissioners of Wardha, Nagpur and Chanda; 5. Letter No. 6156, dated 25th September 1890, from the Commissioner, Chattisgarh Division, with annexure from the Deputy Commissioner, Bilaspur.

monopoly for a term of years for the erection of elevators, provided that the concessionaries were obliged to use proper diligence and despatch. It might go so far as to take up and grant land free of charge or at a nominal rent. And it might provide the salary of an official capable of granting certificates on the understanding that it incurred no liability whatever by doing so. Further, I see no great objections to guaranteeing interest for a certain number of years, provided that the liability on this account was limited to a fixed sum. But Government would not, in my opinion, be justified in granting any further concessions. With these advantages to assist them the concessionaries ought to succeed, if their undertaking is of real utility to the country.

77.

From COMMISSIONER, Jabalpur Division, to CHIEF COMMISSIONER, Central Provinces, No. 1162, dated 12th March 1890.

Under your endorsement No. 177 S.—88, dated the 11th February, you sent papers relating to the formation of a Company for the introduction of grain elevators into India.

2. The concessions asked for are:—

(1.) Arrangements for the countersignature of certificates by Government officials.

(2.) The free provision of land for the Company's purposes, either within or adjacent to the Railway and Port Trust premises, and connected with the lines by sidings.

(3.) A guarantee that facilities will not be afforded to a competing Company or individual for a term of 25 years.

(4.) That the grant of concessions as above extend to every grain shipping port and upon every line of railway built or to be built through the grain-producing districts of the Indian Empire.

(5.) A guarantee of interest at the rate of 4 per cent. per annum for the first five years of the Company's operations, such advances being, however, repayable without interest from half of surplus profits in excess of 6 per cent.

It will probably occur to most people that the Company hardly have the courage of their convictions, and as the case stands it seems to me that the Company ask for large concessions, run no risk for five years, and have a good chance of within that time disposing of the concessions to some larger Company or of distributing their concessions among several Companies.

3. The views of Deputy Commissioners are these:—

The Deputy Commissioner, Jabalpur, does not feel himself "qualified to give an opinion on the proposals."

The Deputy Commissioner, Saugor, says:—

Grant of sites.

"The demands made by the proposed Company on Government for assistance seem to me more or less preposterous, but I would so far further their views by giving facilities for acquiring land in the vicinity of railway stations. Grants of free land I would not advise, for, if the Company failed, which they certainly would in many places, they would sell the plots to the local *bunya*, who would doubtless use it in many ways not to the public advantage. Small plots of land either now exist or could be acquired adjacent to any railway station in this district at a comparatively small cost. If acquired by Government, such plots might be leased at a nominal rent, to a *bonâ fide* Company. On the closing of operations owing to the failure of the Company or otherwise the land would revert to Government. Further than this, in my judgement, no concession is feasible or expedient."

Extent to which Government might assist.

The Deputy Commissioner, Damoh, thinks it "a matter of most urgent importance to the trade of India that efficient measures should be taken for the improvement of the reputation of the samples of wheat imported from India. Further, if the Government wish to give a monopoly, I certainly think they should give effectual aid so as to have an undoubted claim to close and effectual check and supervision. The confidence of the public in the certificates of the Elevator Company would be increased by the knowledge that it was guaranteed by Government and liable to be taken over on the expiry of the term of guarantee. On this understanding I think

the Government should give the assistance proposed by Colonel Filgate in his memorandum, *viz.*:—

"(1) Give on lease free for 25 years the land required for erection of elevators and sidings, and withhold similar facilities from others for 25 years.

"(2) Guarantee interest at 4 per cent. for the five years, on condition of being allowed close check and supervision of the work, and the right to buy up the property at its market value at the end of the 25 years' monopoly."

The Deputy Commissioner, Seoni, thinks the scheme a desirable one, but observes:—

"I do not understand how any Company can expect to have a monopoly of this business as seems to be contemplated, nor do I understand why any Government guarantee is necessary. If the ultimate advantages of such a scheme are likely to fulfil Mr. J. G. Smith's expectations, it ought surely to be possible for enterprising private firms to start such business even without such guarantee.

"I do not see how it is possible for Government to undertake the management of any such business directly through its own officials."

The Deputy Commissioner, Mandla, also thinks the scheme a desirable one, remarking:—

"The assistance of Government officers might be given—

"(1) in the matter of the company's certificates;

"(2) land for the erection of elevators might be given at the cost of the Company (*sic*);

"(3) similar facilities not to be afforded to a competing Company or to individuals for a term of say 10 or 15 years.

"These concessions to be limited in the first instance to certain lines of existing railways and shipping ports."

78.

From COMMISSIONER, Narbada Division, to CHIEF COMMISSIONER, Central Provinces, No. 1717, dated 24th March 1890.

With reference to your endorsement No. 177S.—88, dated the 11th ultimo, forwarding, for opinion of myself and the Deputy Commissioners, of this Division, Circular letter No. 122–127–Agriculture, from the Under-Secretary to the Government of India, on the subject of the introduction of grain elevators into India, and the encouragement which may properly be given to the Company, I have the honour to report as follows.

2. The Deputy Commissioner of Hoshangabad is of opinion that "the matter should be left entirely to private enterprise," Government only affording "facilities in the way of sites, &c., on easy terms for the establishment of the elevators."

Elevators not required while demand for dirty grain exists.

Colonel Plowden adds that, as long as the present principle of mixing a certain percentage of dirt with cleaned grain is a recognized factor in mercantile transactions, there is little hope of the proposed Company meeting with much encouragement. Even admitting that the admixture of dirt with grain could be put a stop to, Colonel Plowden would only allow of Government interference being "altogether indirect."

3. The Deputy Commissioner of Nimar has misunderstood the question asked as to how far the Company should receive encouragement from Government, and gives no reply to that point. He does not think the ryot producer will patronise the elevator much, but he thinks the mahajan exporter will, eventually.

4. The Deputy Commissioners of Betul and Narsinghpur "do not know sufficient of of the subject to give any useful opinion."

5. The Duputy Commissionioner of Chhindwara is somewhat diffuse and has wandered away from the subject, but practically he holds the same opinion as Colonel Plowden, *i.e.*, "that as long as the merchants and grain-producers of the country choose to pay a tax of 5 per cent. on the cost of carriage," there is little hope of grain elevators being a success. He also objects strongly to the principle of giving Messrs. Ritchie, Stuart & Co. a monopoly, and points out that in his opinion their demands are hardly such as Government should accept. He points out the very great difficulty

there would be in arranging any system of Government control, or appointing "officials to sample their outturn and grant them certificates."

6. As far as my own views are concerned, I am inclined to think that Government interference in a transaction of this description would be a mistake. I would leave it as in America, to the mercantile community, and I would certainly not grant a monopoly for 25 years. On the contrary I would encourage the introduction of similar elevators by as many firms as chose to take the risk of introducing them. I agree with Mr. Ellison in thinking that the system of countersignature of certificates by Government officials would be a mistake, for unless such officials were experts and thoroughly honest (qualifications which are extremely rare) the certificates would be worthless. In all probability the countersignature of certificates would develope in a very short space of time into a mere perfunctory performance, the certificates would be worthless as guarantees of the condition of the grain they referred to, and, although the Company proposes to hold the Government free from risk in this matter, they cannot save the Government from the discredit which would certainly accrue. One of the arguments in support of the proposal is that the position of the producer would be improved by "depriving others of the opportunities of mixing, carrying and "profiting by an adulterated or dirty sample."

As the Deputy Commissioner, Hoshangabad, says, as long as a firm like Ralli Brothers finds it pay to clean its wheat and then mix 5 per cent. of earth in it—and as long as the practice is not, to the best of my knowledge, condemned by the Chambers of Commerce—I fear that the erection of a few elevators here and there, or "the "simple cleaning and grading operations" proposed in Mr. Smith's letter, will have but little effect in the direction suggested. They are certainly not, in my opinion, worth the risks that Government will incur by the grant of the rights and guarantees that Mr. Smith asks for.

79.

From COMMISSIONER, Nagpur Division, to CHIEF COMMISSIONER, Central Provinces,
No. 2958, dated 2nd May 1890.

In reply to your No. 177S–88, dated the 11th February last, I have the honour to say that the concessions which the projected Grain Cleaning and Elevator Company ask for, as detailed at page 2 of the enclosure to the letter from the Government of India, seem to me quite inadmissible. They involve the free grant of land close to railway stations throughout the grain-producing districts of the Empire and at ports of shipment, a monopoly of these privileges for 25 years, and a guaranteed rate of interest on the capital embarked for the first five years, the sums so advanced not to be repaid until the profits of the Company exceed 6 per cent., and then without interest.

2. Mr. James G. Smith, of Ritchie, Steuart & Co., is evidently not a gentleman who will lose anything for want of asking. These demands seem preposterous even taken singly. For instance, the free grant of land close to railway stations means that Government would have in the majority of places to take up very valuable land at its own expense and make a present of it to the Company. It is apparently also intended that Government shall be at the expense of connecting the Company's premises with the railway lines by sidings. And this privilege is asked for practically throughout India, as almost the whole of India is grain-producing.

Scheme should not be guaranteed by Government.

3. As to a monopoly for 25 years and a guaranteed rate of interest, such concessions would be justifiable only in a case of undertakings like railways and canals, which are of undoubted benefit to the entire country through which they pass. There is no such certainty that this project would benefit the country to any extent. We cannot reason from the analogy of the active, enterprising American to the slow and apathetic people of this country. The keen competition of the United States forces the farmers of that country to adopt every improvement in the processes for cleaning and transporting grain. It is by no means certain that in this country the superior facilities offered by elevators would meet with ready appreciation. The Deputy Commissioner, Nagpur, who goes more fully into the matter than the other Deputy Commissioners, does not think that these advantages would be much appreciated, and cites the alleged fact that the cleaned grain of Messrs. Ralli Brothers does not meet with much greater demand than the

adulterated grain of the ordinary market. I do not altogether understand this remark Ralli Brothers do not clean grain for sale in this country. The grain they clean they export themselves from Bombay. I should doubt the assertion that cleaned grain does not fetch a higher price, bulk for bulk, then uncleaned. I think that if an Elevator Company was started as proposed, it would probably result in some or all of the advantages enumerated on pages 1 and 2 of the enclosure. But it does not follow that Government should grant the demands formulated. Government cannot be expected to bolster up in this way every plausible commercial enterprise which may have a tendency indirectly to benefit the country. The precedent would, I think, be a bad one. It is a purely commercial enterprise and should depend for success on its own merits. I do not know why greater assistance should be extended to the enterprise than to the various spinning mills and other industries that have been established in the country.

Grain certificates objectionable.

4. The proposal that grain certificates should be countersigned by Government officials also seems inadmissible. I cannot see why Government officials should take any direct part in the business of the Company, and I think such participation would be most objectionable. I suppose the idea is that people would feel more confidence in the security of the certificates if they were countersigned by a Government official. Such counter-signatures could be nothing more than a mere form, and I should think most officials would object to sign. I am inclined to agree with the Deputy Commissioner of Chanda who characterises some of the proposals as little short of "audacious."

5. As for the "rights" which Mr. Smith asks for (page 2), they are rights for which no special permission is required. If the Company choose to purchase land and erect their own elevators thereon, they can do all these things without asking any one's leave. I can see no reason why they should not "select a few stations on some of the "principal grain-carrying railways and conduct thereat simple cleaning and grading "operations, returning the grain into bags, properly secured, etc." They can do this without troubling Government in the matter, as Ralli Brothers already do at Nagpur. Let them begin in a small way, and then if they succeed let them gradually extend their operations, but I am at a loss to conceive why they should be treated with any special favour by Government. Deputy Commissioners' replies are forwarded in original.

80.

From DEPUTY COMMISSIONER, Wardha, to COMMISSIONER, Nagpur Division, No. 900, dated 22nd February 1890.

With reference to your No. 1018, dated the 14th instant, I have the honour to state that, in my opinion, the advantages to be gained by the introduction of any system by which it can be ensured that Indian wheat shall reach the European markets properly cleaned, graded and certified are so numerous, that Government should certainly give all the aid in its power to the proposed scheme, especially as it would appear from the papers forwarded that it has been worked with success both in America and Russia, which is to some extent a guarantee that there will be little or no risk in making the concessions asked for.

Effects of the scheme on middlemen.

2. It is not likely that the introduction of elevators will do away with the middleman, for the majority of producers individually grow such small quantities that they would not think of carting their produce to the elevators. As now, the middleman would go about to villages and petty markets and make up a good quantity, which he would find he could not dispose of to much advantage in competition with certified grain; he would therefore in his own interests have to take it to the elevator to have it cleaned and graded. After a time the larger ryots would themselves see the advantage of going direct to the elevator and getting their certificates, which they could dispose of when they thought best.

Probable benefits.

3. Besides stimulating trade with Europe and giving Indian wheat a better place in the markets there, the following advantages would necessarily follow:—

(1.) It would put a stop to dishonest weighing and measuring by which the ryots at present suffer considerably, for it is a notorious fact that in nearly all markets about this part of the country dishonesty in this respect is very common.

(2.) It would be more clearly brought home to the ryots what kind of grain was most in demand, and they would grow that kind and endeavour to prevent mixture.

(3.) Adulteration with earth and other things for the purpose of counteracting the dodges of middlemen in weighing and measuring would be rendered unnecessary. In Chhattisgarh I was told by ryots that they had to mix earth with their wheat and linseed for this reason.

4. It certainly will be a great pity if, for want of some encouragement from Government, so excellent a proposal should fall to the ground.

81.

From DEPUTY COMMISSIONER, Nagpur, to COMMISSIONER, Nagpur Division, No. 1461, dated the 10th March 1890.

Referring to the printed papers received with your endorsement No. 1018, dated the 14th ultimo, I have the honour to observe as follows.

2. I gather from these papers that the proposed "Grain Cleaning and Elevator Company" want to establish themselves as agents only to receive consignments of grain, clean the article, store it, dispose of it when the market rates are favourable, and undertake all the incidental charges on account of loading, shipping, &c., for all of which certain fees will be charged; and that in order to establish themselves and to start with some reasonable prospect of success, they ask for certain concessions to be made to them by Government in the way of free provision of land for store godowns, &c.

3. The Company apparently rely on producers chiefly, but speculators would also come rapidly forward once they have practical proof of anything like an increased financial return over that now realised by direct consignments to Bombay of the uncleaned grain fresh from the threshing floors or granaries.

I am not very hopeful of the Company's succeeding readily as mere agents.

Direct exportation.

4. I have been in charge of this district for about three years, I have been over nearly all of it, and have come in direct contact with many of its phases of commercial life, and yet, so far as the grain trade is concerned, I cannot recall a single instance of a local producer, be he a fairly well-to-do tenant or large prosperous land-holder, exporting direct to Bombay on his own account. The small producer is more or less in debt, and his crops are practically not his own; and the large producer is content to store and sell locally, though fully conscious that in doing so he forfeits profits to the middleman, which would be his if he exported direct. The reason is obvious; he runs no risks, he has not to wait for his money, he has no expenses to incur in carting, despatching, &c., and he readily invests the money he has received by placing it out at interest.

Inducements wanted.

5. There must then be some very clear inducement quite patent to him to tempt him to consign his goods to an agency like that contemplated; such an inducement would be that he would realise more than he does at present. There would be such an inducement if it was patent to all that adulterated grain is at a discount, and that there is a readier and greater demand and higher price for the cleaned article. The question arises, do such factors exist?

6. Then, on the other hand, if we take the class which is really the exporter of grain, we find that this class consists of:—

(1) Ralli Brothers;
(2) the floating speculating Marwaris;
(3) the travelling agents of Bhattia firms at Bombay.

The first two buy, store, and export, the third buy and despatch on the telegraphic orders from Bombay, then again, Ralli Brothers do, to some extent, clean grain before despatching it, but I am assured that this makes little or no difference in the demand for the adulterated article.

7. It therefore follows that so long as there is no perceptible diminution in the demand for grain as issued from the threshing-floors, and no restriction in such grain being offered for sale, the proposed agency will find their scheme a very up-hill if not non-paying work.

America and Russia no examples.

8. I note that the printed papers show that the scheme has succeeded in America, Russia, &c.; but the conditions of those countries are widely different from those in India. There the grain, as a whole, may be said to be cleaned before leaving the farm, for nearly all large growers have winnowing machines. It is otherwise in India, where the rude threshing-floor still reigns supreme.

9. The foregoing remarks are not entirely based on my experience of the commercial life in this district, for I have consulted men who are in a position to speak definitely on the subject, such as the Ghatate, Mr. Gopal Hari, Pleader, Jadhoram Sheonarain, Deokaran, Marwari, Adamji Mamuji and others,

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82.

From Deputy Commissioner, Chanda, to Commissioner, Nagpur Division, No. 787, dated 28th February 1890.

Your No. 1018 of 14th February 1890, touching the proposed Company to supply India with grain elevators.

I, too, while recently at home, discussed Indian wheat with practical millers and others; I have often watched cleaning operations by Messrs. Ralli Brothers and others, and when at Jabalpore took an interest in the matter of grain-cleaning; I think it should be left to private enterprise.

The proposals are audacious in some degree, I think.

83.

From Officiating Commissioner, Chhattisgarh Division, to Chief Commissioner, Central Provinces, No. 1656, dated 25th September 1890.

I have the honour to submit the remarks of the Deputy Commissioners of this division on the subject of the introduction of grain elevators in this part of the Province.

Present conditions unfavourable.

2. There can be no doubt that the cleaning which Indian wheat would undergo by means of these elevators would do much to rehabilitate its reputation in European markets, but I doubt, however, whether the present conditions of the wheat trade in this part of the country and the intelligence and morality of those who deal in wheat are such as to render the measures, found so effective in the United States, practicable here. The great bulk of the wheat which is exported from this station for the European market is despatched by regular grain-dealers, who obtain it in small quantities from the petty dealers, who visit the villages in which it is grown, or attend the small local markets to which it is taken in small quantities for sale. Now it is, I think, admitted that it is the middleman who principally adulterates the wheat. They have not intelligence enough to see that if the character of wheat were raised in the market, that they, as well as all other dealers, would benefit thereby; or if they can understand this, they consider it futile and insensate to abstain from practices which the whole trade adopts. It is clear then that these men would not be concerned in the cleaning of their wheat, and would not therefore resort to the elevator. There are but few wheat-growers in this part of the country who export their own wheat, or bring it to Raipur or any other railway station for sale, as mentioned before. They sell the produce either in their own village, or at the nearest local market; and even supposing that in time it becomes the custom for growers themselves to bring their wheat to the railway for exportation, I doubt whether they would have sufficient intelligence to understand the advantage of elevators. They would want immediate payment, and the process of having their wheat cleaned and then sold by sample would be unintelligible to them and unpopular. What they desire is an immediate sale of their wheat and its value in silver. They do not understand what a negotiable instrument is, nor would they value any such certificate. It seems to me therefore that there is but little hope of an elevator being used by any class of native traders. The result of cleaning would be against the interests of the middlemen (as they understand their interest), and its value would be quite incomprehensible to the great majority of growers who bring their wheat to the railway. The business which would be attracted

Ignorance of middleman.

to the grain elevators would not suffice to pay working expenses. Any attempt to introduce the cleaning of wheat before the traders are convinced of its value (and the loss attendant on adulteration is manifest to all) will fail. The only hope of the successful introduction of the improvements in this respect is the same in this as in all other matters of advancement. The first step must be made by Europeans. More would be done by a firm like Messrs. Ralli Brothers by establishing elevators at Jabalpur, Harda, and Nagpur for the cleaning of their own wheat than by the establishment of a score of elevators on the plan proposed. When middlemen, and especially the large native dealers who purchase from middlemen, perceive the advantages of a good reputation in the principal wheat marts, and understand that an enlightened self-interest is opposed to adulteration, they will not be backward in abstaining from these vicious practices. European firms who adopt cleaning processes might be assisted by Government in this matter by granting them official certificates of the quality of the wheat exported. These certificates would in time become guarantees of superior quality, and the advantage of cleaning would eventually be made manifest to the trade. A regards the proposal that the Grain Elevator Company should make advances to growers on produce to be delivered at the proper season, I do not think that an ordinary Company could successfully undertake the duties of the local Marwari, who knows personally every one of his customers. Government in advancing money to cultivators in cases where their lands are hypothecated and sums due can be recovered as arrears of land revenue, have not always found this work easy, and have sustained losses. I hardly fancy that a private Company making loans to individual ryots without having any special or local knowledge is at all likely to succeed any better. Moreover, it is certain that the indebted and the dishonourable would be those who would first seek these loans, and would probably be quite unable to repay them. In conclusion, I would say that I do not think that the scheme of cleaning wheat by elevators put forward by Messrs. Ritchie, Steuart and Co., though it would have the most beneficial results if it could be introduced into this country, is at all practicable, or in any way adapted to the circumstances and conditions of the wheat trade of this part of India.

Co-operation of large firms.

Advances to growers.

84.

From Deputy Commissioner, Bilaspur, to Commissioner, Chhattisgarh Division, No. 2597, dated 8th May 1890.

With reference to your endorsement No. 972, dated the 14th February last, I have the honour to state that there are no large exporters of wheat in this district to the Bombay market.

2. It is not likely that the ryots or malguzars or merchants of this district will, for some time at least, deal direct with the Grain Cleaning and Elevator Company.

The success of the Company will depend on the demand for wheat at the port of exportation. If prices are sufficiently high, middlemen will come up from Bombay to purchase locally and transmit through the Company.

Success of scheme dependent on demand of clean wheat.

3. The Company asks for the right to advance money to ryots on the security of their land and crops. It is not clear whether the Company mean by this the exclusive right to make such advances. If so, the request for such a right could not of course be entertained. If the exclusive right is not asked for it would appear unnecessary to ask permission to make advances. If the Company is prepared to make advances to the ryots at reasonable rates, it might be of great assistance to the people.

4. The local merchants who have been consulted by me are petty dealers, for, as I have already stated, there are no large exporters in Bilaspur. They were all of opinion that if the Company is ready to make agricultural advances on the security of the crop and take payment in kind, the undertaking would be beneficial to the cultivators.

5. The Company's scheme appears deserving of encouragement.

85.

EXTRACT FROM THE PROCEEDINGS OF THE GOVERNMENT OF INDIA IN THE REVENUE AND AGRICULTURAL DEPARTMENT, No. 39, dated 20th October 1893.

Read—

The following despatches from Her Majesty's Secretary of State for India:—

"Despatch from Her Majesty's Secretary of State for India No. 83, dated 27th "September 1888, and enclosures.

"Despatch from Her Majesty's Secretary of State for India, No. 3, dated 10th "January 1889 and enclosure.

"Despatch from Her Majesty's Secretary of State for India, No. 62 (Revenue), "dated 4th July 1889, and enclosures.

"Despatch from Her Majesty's Secretary of State for India, No. 116 (Revenue), "dated 28th November 1889, and enclosures.

"Despatch from Her Majesty's Secretary of State for India, No. 128 (Revenue), "dated 26th December 1889, and enclosures.

"Despatch from Her Majesty's Secretary of State for India, No. 90 (Revenue), "dated 13th November 1890.

"Despatch from Her Majesty's Secretary of State for India, No. 7 (Revenue), "dated 22nd January 1891, and enclosures.

"Despatch from Her Majesty's Secretary of State for India, No. 1 (Revenue), "dated 14th January 1892, and enclosure."

Read Also—

A Volume of Papers dealing with Indian wheat impurities and the formation of a "Grain Cleaning and Elevator Company" for India.

RESOLUTION.

1. It has been acknowledged for some years past that the Indian wheat sold in England is very impure, and that both the bulk of the trade and the profits of the growers are injuriously affected in consequence. The matter has received the attention of the Secretary of State and the Government of India, and the volume of selections above quoted contains the result of the inquiries instituted on the subject.

2. In wheat exported from India a considerable per-centage of extraneous matter has always been accepted by the trade. Up to 1889 the practice was that, on arrival in England, samples were taken from the various shipments, and an average quality was deduced from these by the Corn Trade Association, and made generally known; and all the wheat sold during the month was represented as of "fair average quality." This system saved a great deal of trouble to home dealers, but it obviously placed no check on the amount of impurity that may be mixed with the imported wheat.

3. Owing to the system of threshing and storing wheat in this country and to the practice of sowing wheat mixed with other crops, a certain amount of impurity must always be found in the grain before it leaves the grower's hands; but it is plain from the information now published that a large portion of the impurities in the wheat which is sold in England is inserted intentionally after the grain has left the threshing floor. It was for some time contended that in order to stop the practice of intentional adulteration, Indian wheat should be subjected on arrival in England to some test of purity similar to that applied to other foreign wheats, and the Liverpool Chamber of Commerce arranged for a maximum "refraction" of 2 per cent. A conference was held by the Secretary of State in May 1889, and the London Chamber agreed to the principle involved so far as to fix rates for the various kinds of wheat; but the amount of impurity allowed still ranges from 4 to 7 per cent., and the Chamber have refused to reduce the per-centage.

4. So far, therefore, the attempt to induce the home dealers to move has been only partially successful. Dr. Voelcker in his recent report on the improvement of Indian Agriculture states his opinion that, failing voluntary help from the trade, legislation may be found necessary, and various proposals have from time to time been made for the introduction of enactments to ensure the purity of exported wheat. The mercantile community are, however, averse to legislative measures, and the Government of India are of opinion that things have not reached a stage at which legislation would be justifiable.

5. There remains the possibility of adopting a medium course by which private enterprise shall be subsidized in order to secure the purity of wheat before it leaves the country. It has been proposed that the Government should, with this object in view, give its active support to the introduction of the American elevator system; and a despatch of the 28th November 1889, from the Secretary of State, forwarded a letter from Mr. J. G. Smith, of Messrs. Ritchie, Steuart & Co., suggesting the formation of a "Grain-Cleaning and Elevator Company," and asking for the assistance of Government in several directions. The suggestions themselves, and the opinion upon them of the Civil officers, mercantile associations and railway authorities consulted will be found in detail in the volume of selections.

6. Though it was not the immediate object of the proposed Company to introduce elevating machinery on any such complete plan as that adopted in America, they desired to test at a few centres the more important practices of the American system, such as the cleaning of wheat by machinery, the grading of wheat by responsible officers, and the storing of wheat in safe and convenient places. Their scheme differed little from those discussed in the Government of India's Resolution No. 6—228–244 of 30th August 1879, or from that put forward in 1883 by Messrs. Reinhold of Cawnpore; but having been considered on its own merits, it has, on the same grounds as the schemes previously considered, been held to be unworkable under Government direction or guidance.

7. The idea that cultivators and local dealers should be induced to bring their wheat to the Company's premises to be cleaned by machinery has not found much support. It has been pointed out that the cultivator can supply very much cleaner grain; and that if any further cleaning is demanded, he could probably effect it on his own threshing-floor much more cheaply than any machine at a central granary. It has also been noted by many of those consulted that the further cleaning of wheat is of very little use until the home dealers agree to ensure a better price for cleaned than for dirty wheat. Other considerations have been put forward, such as the chance of adulteration *en route* to the ports, the difficulty of providing against damage by weevil on the voyage to England, and the necessity, under any circumstances, of further cleaning before use in English mills. If the attempt to remove the premium offered on the export of dirt to England is successful, the Government would be glad to see efforts made by private enterprise to provide cheap and convenient means of cleaning wheat; but would not feel justified in fostering trade in wheat any more than any other commercial ventures, by granting subsidies in support of private action.

8. It is in the *grading* of wheat, however, that the aid of Government has been specially invited. The proposed system requires that grain received at the Company's premises shall be tested and divided into grades; that all grain of the same grade should be stored in the same warehouse; that the owner should be furnished with a certificate of the grading, which he may use as a negotiable instrument in place of transferring the actual wheat. Finally, the promoters of the scheme anticipate that if proper precautions are taken, the certificates may be accepted by the home market, and that the uncertainty entailed by the present system may be avoided.

The suggested scheme could not eliminate difficulties involved by adulteration or by damage from weevil *en route* to England; but even if these were surmounted, it is feared that it would be found far less easy to work than in America or Russia, owing to the smaller scale of individual cultivation, the ultra-conservative habits of both cultivators and middlemen, and the numerous varieties of wheat requiring classification. The Government could not consent either to allow their officers to countersign certificates made out by persons other than their own servants, or to provide official agency for the purpose of classifying grain. They are disposed to think that, if the scheme is to be worked at all, measures for the grading of wheat must be arranged by a combination of the leading merchants at the seaports.

9. It is doubtful, however, whether the mercantile classes in India are likely to appreciate the advantages of public warehousing. Their instincts are apparently in favour of more confidential methods of dealing; their stocks are not as a rule collected at commercial centres, and their existing system of open-air or pit storage is less expensive than, and in the opinion of many as efficient as, any public storage on advanced lines could be. Without endorsing all the objections which the dealers urge against the system advocated, the Government of India are afraid that there is little chance of securing for it much support at present, and would prefer to wait until the

expansion of local and bonded warehouses under the charge of municipal and other bodies has familiarised the public with the warehouse system.

10. On the whole, therefore, the proposal that the State should subsidize a Company for the cleaning, grading, and storing of wheat, or for any one of these purposes, does not commend itself to the Government of India. This being the case, it seems unnecessary to discuss the subordinate advantages claimed for the scheme put forward, such as the certified weighment of goods, the substitution of bulk for bags, and so forth. Nor is it necessary to notice the form which possible concessions by Government would take, especially as some of those suggested by Mr. J. G. Smith are, as pointed out in the papers, quite impracticable. The Government of India are unwilling to do anything that would stand in the way of the introduction either of the American elevator system or of any modified form of it; but they hold with most of the commercial associations consulted that the promotion of such a system must be left to private enterprise, and that it cannot be introduced or subsidised by the State.

ORDER.—Ordered, that the above Resolution, with copies of the volume referred to in the preamble, be forwarded to the Local Governments and Administrations, and Officers noted below for information.*

Ordered also that copy of the Resolution and volume be forwarded to the Foreign Department for communication to Political Officers, and to the Departments of Finance and Commerce and Public Works for information.

[True extract.]
E. C. BUCK,
Secretary to the Government of India.

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* The Governments of Madras, Bombay, Bengal, North-Western Provinces and Oudh, and the Punjab.
The Chief Commissioners, Central Provinces, Burma, Assam, Ajmere, and Coorg.
The Secretary for Berar to the Resident Hyderabad.
The Inspector-General of Forests to the Government of India.
The Agricultural Chemist to the Government of India.
The Reporter on Economic Products to the Government of India.
Foreign Department for Political Officers.
Finance Department.
Public Works Department.

APPENDICES.

1.

APPENDIX A.

From the SECRETARY OF STATE FOR INDIA, to GOVERNMENT OF INDIA, No. 7. (Revenue), dated 22nd January 1891.

I forward herewith, for your Excellency's information, a copy of a letter, dated 20th December 1890, received from Mr. Phillip Pavy, of Elcombe Hall, near Swindon, and its enclosure, an interesting Report on the subject of the wheat industry of the Punjab, addressed by Mr. Pavy to Sir C. Aitchison in 1883. Mr. Pavy is anxious that it should not be overlooked at a time when the question of dealing with the impurities in Indian wheats is being so much impressed on public attention. In this connexion I shall be glad to be advised at an early date of any recommendations you may propose to make on Mr. J. G. Smith's letter of the 17th of September 1889, forwarded to your Excellency with my Revenue Despatch, No. 116, of the 28th November following.

2.

From PHILLIP PAVY, Esq., to Sir GEORGE BIRDWOOD, India Office, dated 20th December 1890.

Since I had the pleasure of seeing you with Mr. H. Kairns Jackson when you were good enough to give me the official papers on impurities in Indian wheats, I have been travelling about and unable to report on them earlier.

As promised, I have now the pleasure to send you copy of the report I wrote in 1883 at the request of Sir Charles Aitchison, the then Governor of the Punjab, giving my views of the best means of growing in his province the wheats most suitable for the English and European markets.

I have read with very great interest the papers you were kind enough to give me, which confirm in many respects what I had previously written in 1883.

I can only speak more particularly of the Punjab and the North-West Provinces which I have visited at three different times, and attended most of the principal markets to learn by actual experience the way the wheat was brought to market by the native producers.

Points for inquiry.

It appears to me the different matters for investigation to promote the success of the arrival in Europe of the wheat grown in India in quality equal to that imported from other countries are—

(*a.*) Selection of seed suitable for the land and district.
(*b.*) Harvesting, thrashing, and marketing the grain by the producers.
(*c.*) Transit of the grain to the ports for shipment.
(*d.*) Customs of export merchants and shipment.
(*e.*) Quality and analysis.
(*f.*) Buyers and consumers in Europe.

Some of these subjects have already been alluded to in my report to Sir Charles Aitchison, and on these I have little more to communicate; but I may add—

Selection of seed.

(*a.*) There are some fine specimens of wheat grown in India, and could be procured clean, and good for seed, if the hard were not planted with the soft or the red with the white.

Cleaning.

(*b.*) I have seen at the country markets wheat clean and in good condition, although probably thrashed in the usual way. In California I have seen wheat harvested with a "header" clearing 20 feet at a time, at the same operation cutting, thrashing, winnowing, and putting the seed in sacks. The machine was drawn by 28 horses or mules, and worked by five men, and was reputed to cut 60 acres per day. But I always prefer the "binder," worked with three horses and one man, doing about 12 acres a day.

In my opinion, judging from what I have seen, it is an exception for the producers to adulterate the wheat, it being sold by them according to quality and cleanness. There is a considerable quantity of seed and other grain sometimes grown with the wheat, but the seed and grain are easily separated by the natives, and the barley can be separated by machinery.

Transit to port.

(*c.*) With the present mode of transit there is much less damage done on the road to the shipping ports than formerly, when the wheat was sent by boats, which were more or less leaky.

I also think the present mode of sending the wheat in sacks far preferable to sending it in bulk in the railway trucks as in the Eastern States of America.

Granaries should be built at all the large railway stations, as in England, California, and other countries.

Trade customs.

(*d.*) In my opinion, it is at the shipping ports where the bulk of the adulteration takes place, the shipping houses hoping to make a profit in two ways—

First, by any difference they may get in the refraction which, it appears, is 4 per cent. in Bombay, 5 per cent. in Calcutta, and, if my memory serves me rightly, 7 per cent. in Karrachi; so

that, if the natives deliver to the export shippers wheat at Karrachi with only 2 per cent. admixture, the export merchants would make 5 per cent. profit.

Secondly, by the large shippers making their own f. a. q., consequently being able to deliver gradually each month a quality depreciated in value to a considerable extent to the prejudice of the producer in India and the consumer in England.

Formerly in India the wheat was delivered by the native direct to the export merchants from the railway, but as they could not get a better price for their clean grain, I am informed they now take the wheat to their own godown, and reduce the quality by a mixture of siftings; probably the refuse of the export merchants who take delivery from the native godown, cart it to their own godown, clean it down to 4 or 5 per cent. and ship it.

Quality and analysis.

(*e.*) I see no reason myself why Indian wheat could not be sold on a mutual 2 per cent. refraction both in England and at the shipping ports, except that naturally the large export houses who wish, and do to a certain extent monopolise the business, would lose the chance of making the profits before mentioned.

I do not understand why the charge for analysing wheat should be more than seed, and there is no more difficulty with the invoices than with seed, Egyptian beans, or other articles sold on analysis.

My experience is that with well-cleaned wheat there is little weevil.

There is no reason why an average sample could not be made and wheat sold on sample the same as with American, Californian, and other exporting countries.

In my opinion the fault as to quality of Indian wheat does not lie with the producer in India, or the consumer and miller in England, but solely, directly or indirectly, with the export merchants in India.

For the sake of the producer in India and the consumer in Europe, it is most desirable that the present contract be revised.

On reference to my Report, page 5, and taking Dr. Forbes Watson's figures, that in 1873–74 there was under wheat 5,551,794 acres in the Punjab, and the return this year, 1890, as 6,678,000, being an increase only of 1,118,206 acres in 16 years, which is much less than could have been reasonably expected with the increase in value, there is yet in the Punjab and Scinde Valley very large tracts of land that could be cultivated with wheat.

3.

From PHILLIP PAVY, Esq., to SIR CHARLES AITCHISON, K.C.S.I., Lahore, dated June 1883.

Introduction of improved varieties of wheat into the Punjab.

I must apologise for having delayed so long sending you the report I promised you of my views of the best means of growing wheat in your Province suitable for the English and other European markets, but I have been so much occupied with the development of the through transit grain business in connexion with my son, Mr. M. E. Pavy, in Lahore, that my time has been fully taken up.

I regret my visit to India in 1882 was so short, and consequently gave me so little opportunity of gaining any information of the system and routine of cropping the land adopted in the Punjab, which would have assisted me very much in my present report.

In England, as doubtless you are aware, there are many systems adopted, which from experience have been found the most suitable to the localities in which they are placed and the nature of the soils to be dealt with as to their wheat-producing capabilities both as to quantity and quality.

In England, on the heavy or so called wheat-producing land, it is customary in some districts to cultivate on the two-course system, or planting wheat every other year and beans or peas alternately with tares or summer fallow; others cultivate the same description of soil on the three-course system, or wheat followed by spring or lenten corn and then seed or green food for stock, which is fed off on the land, and consequently manures it without extra expense.

The hill or lighter soils are farmed generally on the four and even five-course system, say wheat, then turnips which are fed off with sheep, then barley, then seeds which are either cut for hay or fed with stock when farmed on the four-course system, and when farmed on the five course system the seed is left as old field, or, in other words, is cut or fed the second year.

In the south of Italy, where the climate resembles nearer to that of the Punjab, and I have known the thermometer 105 Fahr. in the shade, wheat is usually grown alternately with maize or other summer crops, on the reclaimed land, of which there are many thousands of acres. Wheat is grown alternately with hemp or maize, the former growing frequently 10 to 12 feet, and the latter 6 to 8 feet high.

In any case the land should be clean, well-manured, and in good order to receive the seed, which should be planted in good season.

Having the land in good condition, the next in importance is to have good seed, which should be of the new or (last crop) of good quality, clean, and free from *barley, gram*, or *other grain seed*, and ought always to be changed, and, if possible, brought from colder and poorer land than it is intended to be sown on.

The question of the quantity to be sown per acre I cannot from actual experience give an opinion, but my impression is that generally it is too little in India, and I think two bushels to two and a quarter bushels per acre, or about 60 to 75 seers, would not be too much.

The best description of white wheat suitable for your province would be, I think,— **Suitable varieties white wheat.**

1. Australian.
2. Delhi.
3. Italian Richele.
4. Algerian Richele.
5. Essex Rough chaff.
6. New Zealand.
7. Californian.

Of these, the Australian is by far the best and containing more of the qualities required for the English and European markets than any other, both as regards colour and strength and for comparison as to value.

The different qualities may be estimated as follows:—

1. Australian	50*s.* per 492 lbs.
2. Delhi	48*s.* „ „
3. Italian Richele	48*s.* „ „
4. Algerian Richele	48*s.* „ „
5. English Rough chaff	46*s.* „ „
6. New Zealand	46*s.* „ „
7. Californian	45*s.* „ „

as against 42 for the same weight of white wheat of the Punjab.

The best description of red wheat, and probably the most suitable for your climate, would be— **Red wheat.**

1. Winter American,
2. Sicilian,
3. Italian,
4. Delhi,
5. English nursery,
6. „ common,
7. „ April.

and the relative value may be estimated as follows:—

1. Red Winter American	46*s.* per 492 lbs.
2. Sicilian	45*s.* „ „
3. Italian	45*s.* „ „
4. Delhi	45*s.* „ „
5. English nursery	44*s.* „ „
6. „ common sort	42*s.* „ „
7. „ April	42*s.* „ „

as against 39 for the same weight of red wheat of your province.

The next matter in importance, after having planted the wheat in clean and well-cultivated soil and from good clean seed, is to see that it is well cared for after it is grown, and to effect this it should be thrashed on wood floors, canvas, or even as a last resource on matting, which can be procured more or less, I presume, all over your province. The present mode, as I am informed, of treading the wheat out by oxen or thrashing on the ground or road arranged for the purpose gives it a dirty, dingy, and dull appearance, and often a disagreeable and earthy smell, and deteriorates the value from 2 to 4 per quarter of 8 bushels, or 492 lbs., instead of its being retained, as in other countries, in its natural state, bright and glossy in appearance and free handling in bulk. **Thrashing.**

When thrashed the wheat should be winnowed by machine or, if this is not possible by an ordinary fan, which could be made in the country for a few rupees; the latter was the usual way of winnowing the corn in England before the machine, now so general in use, was introduced, and which answers the same purpose, but is more tedious in the operation. **Winnowing.**

After being cleaned it should be kept so by being put in a proper warehouse instead of the dirty back hovels I have seen it in, by which means the corn becomes weevily and gradually of more and more inferior quality. When taken to market it should be conveyed, whether on bullocks, camels, or carts, in sacks, and not put on the road or in the squares when exposed for sale, as is customary now at Ludhiana, Delhi, and other places. **Storing.**

I see no reason why your province should not grow wheat of quality, if not equal in value, nearly so to the best wheat-producing countries of the world.

Taking the relative values of the average qualities of white wheat at this time on the London markets as before estimated as follows:— **Values.**

Australian	50*s.* per 492 lbs.	Average 47 per 492 lbs.
Italian Richele	48*s.* „ „	
Algerian	48*s.* „ „	
Californian	45*s.* „ „	
Oregon	45*s.* „ „	
New Zealand	46*s.* „ „	
against		
Punjab	42*s.*	

and the red wheat—

American Winter	46*s.* per 492 lbs.	Average 45-4 per 492 lbs
Italian	46*s.* „ „	
Sicilian	45*s.* „ „	
against		
Punjab	39*s.*	

In Paris the relative values estimated by one of the large merchants are for white wheat—

Australian	28 francs per 100 kilos	49*s.* 11*d.*	per 492 lbs.
Italian Richele	28 „ „	49*s.* 11*d.*	„
Algerian	28 „ „	49*s.* 11*d.*	„
Californian	26·50 „ „	47*s.* 3*d.*	„
Oregon	26 „ „	46*s.* 4*d.*	„
New Zealand	25 „ „	44*s.* 7*d.*	„
Average being	48 per 492 lbs.		
	against		
Punjab	23·59 francs per 100 kilos	41*s.* 1*d.*	per 492 lbs.

and red—

American Winter	26·50 francs per 100 kilos	47*s.* 3*d.*	per 492 lbs.
Italian Richele	27·50 „ „	49*s.* 1*d.*	„
Sicilian	27·50 „ „	49*s.* 1*d.*	„
Average being	48·6 per 492 lbs.		
	against		
Punjab	22·50 francs per 100 kilos	40*s.* 2*d.*	per 492 lbs.

I have not considered in this report the question of hard wheat, of which there is a considerable quantity grown in your province, but which is only saleable on the London market in moderate quantities, and of that imported the greater portion is re-exported for Holland, Belgium, or Spain. These qualities also find a better market in Italy and the Mediterranean markets generally.

In taking therefore the average price of the six countries that supply England with white wheat, and whose climates approach the nearest to that in your province, we find for the London market it is 47*s.* per quarter of 492 lbs. as against 42*s.*, the value of the average quality of white wheat grown in the Punjab, and in my own mind your province may grow white wheat equal, if not superior, in quality, and of the same value in this market as the average of these countries.

In red wheat I have taken the three countries where the climates are about the same as regards heat as your own province, and we find the average value on the London market is 45*s.* per quarter of 492 lbs. against that grown in your province, 39*s.*

In Paris the average value of the six different qualities of white is 48*s.* per 492 lbs. against 41*s.* 11*d.*, the value of yours, and red, 48*s.* 6*d.* against 40*s.* 2*d.*

The difference therefore in the average value of the white and red wheat of the same qualities grown in the different countries mentioned for the London market is as between 46*s.* 5*d.* and 40*s.* 6*d.*, and for the Paris market as between 48*s.* 2*d.* and 41*s.* 0½*d.*, or an average, we may say, for the European markets of 6*s.* 7*d.* per quarter less for the wheat grown in the Punjab than the average of the other countries from whence we draw large supplies; this at 1-8 per rupee will make a difference of something over 10 annas per maund.

Economic effect of improvement of quality.

Taking Dr. Forbes Watson's figures that in 1873–74 there were 5,551,794 acres under wheat in the Province of the Punjab, and that it had increased in four years, say in 1877–78, to 6,983,904 acres, and presuming the increase to continue in the same proportion, and that in 1882–83 the area under wheat to be estimated at 8,774,041 acres, and as the crop this season is considered to be a large one of good quality and may be calculated at 10 maunds per acre or 87,740,410 maunds or 14,623,401-4-6 quarters of 492lbs., and presuming that the quality could be improved in value, and brought up to the average standard of other countries of somewhat similar climate or, say, 10 annas per maund, it would amount to a sum of no less than, say, Rs. 54,837,756, or an average of R.6-4-0 per acre. These figures may seem fabulous but may be possible, and, if so, it would be difficult to foretell the good that would accrue to your province if over five millions of pounds sterling could be augmented to the receipts of the producers by the improvement of quality alone.

Seed experiments.

It is difficult for me, having no actual experience in the production of wheat in India, to even venture upon a suggestion of which would be the best description of wheat to recommend for seed in your province, but seeing the enormous amount of money, probably pounds sterling 5,000,000, involved in the question of quality alone, it may be worth the consideration of your Government to make a practical experiment by planting a few acres of each sort of wheat in four or five different localities.

This would be a comparatively inexpensive experiment, and would prove by actual results the best seed suitable for the soil and climate.

For the qualities of white wheat, unquestionably the Australian is the best grown suitable for the English and European markets, containing the qualities most requisite both as regards colour and strength for making flour of greatest value; next to Australian, if sent to market clean and in the same condition, is the long-berried wheat grown in the Delhi and Meerut districts; next would be the white Richele of the South Italy and Algeria; some Californian and Oregon may also be planted for experiment. Some white Spanish may also be tried, as well as English, but I am doubtful if the experiment would be successful.

Considering that the expenses and carriage of sending the grain to the European market is considerably more than the first cost paid the producers, and as these charges are the same on wheat of the value of 50*s.* per quarter as 40*s.*, it is of the greatest importance for the farmers to grow the best quality possible to enable them to get the highest prices.

As regards the qualities of red wheat, the long-berried description grown in the Delhi and Meerut districts, if sent to market in the same good condition and clean, would probably make as high a price as any grown on the English and European market. Next to this would be the Italian and Sicilian; these qualities are particularly liked by the millers in France and Belgium

and next would follow the red Winter American, which is more appreciated in England than on the Continent on account of its strength. There are also, I have no doubt, some descriptions of red English wheats that may do well in the Punjab, particularly in the north, and would be worth a trial.

There are also the fine red wheats of the south of France grown in the Merac and Dordoigne districts, and the finer descriptions of Hungarian grown in the valley of the Theiss, and from which the flour used by the Viennese for making probably the best bread in the world is produced, and may answer well in your province.

Transit rates.

Presuming that the quality of the wheat can be improved, and in my own mind I have no doubt on this point, the next question to enable your province to compete successfully with the countries from which we have up to this time usually drawn our supplies, is the question of transit rates by railway and shipping charges.

Land freights.

In America, where of late years we have drawn the bulk of our supplies, the ordinary railway rates are 20*s.* to 27*s.* per ton for 1,000 miles, or an average of 23*s.* 6*d.*, including terminal and shipping charges; whereas on the Scinde, Punjab, and Delhi and Indus Valley Railways, at the lowest rate of 16 pies per 100 maunds per mile and exchange at 1–8 per rupee on the same distance, 1,000 miles, it is as follows:—

	Rs.	a.	p.
Railway rates	22	8	0
Ferry charges	1	11	0
Terminal	0	6	9
Shipping charges, Port-dues, and agency	2	0	0
	26	9	9

or 44*s.* 4*d.* per ton as against an ordinary average rate in America of 23*s.* 6*d.*, and this will clearly show so far as railway rates, charges, &c., are concerned, the producers in your province pay 20*s.* 10*d.* per ton more than their competitors in the Far West of America.

I have here spoken of and made comparison with the ordinary rates in America, but during a war of rates with the railways, grain is frequently carried at 10*s.* and 12*s.* per ton per 1,000 miles, or about one quarter the amount paid from the Punjab.

These figures will, I think, speak for themselves, as far as inland rates and charges are concerned, and show the position of the producers in your province in competing for the food-supply of this country.

Ocean rates.

As regards ocean rates there is no monopoly, and freights are regulated in the usual way by supply and demand; they are sometimes high and at others low. I have known rates for freight even from Calcutta sometimes 12*s.* per ton for wheat, and sometimes 70*s.* and 80*s.*

The annual requirements of the United Kingdom may be estimated at twelve to eighteen million quarters, according as our crop here is more or less abundant, the bulk of which has of late years been supplied us from America, and the question may be asked if our own colony, the Empire of India, could not compete successfully for the supply of a considerable quantity of this wheat, and millions sterling paid to the producers in India instead of America, and in spite of the boasted millions of acres of rich alluvial soil reputed to be yet uncultivated in that country, with land in India at the same or less rent, labour at 2 to 3 annas, 2½ to 3¾ per day, instead of 6*s.* to 8*s.*, fairly cultivated soil, suitable seeds, and proper care taken of the wheat when grown with a climate far more certain and favourable for the production of wheat than America, and with reasonable and not excessive inland rates of transit, there can be no reason why India, your province of the Punjab in particular, should not successfully compete for the increasing requirements of the United Kingdom and other European countries.

If you think I am able to give you any other information on this subject, I am quite at your disposal.

APPENDIX B.

The GRAIN TRADE of the CAUCASUS and the FUTURE of NOVO ROSSIESK, by W. BARNES STEVENS, Special Commissioner in the Caucasus.

1. THE EXISTING DEPRESSION IN THE RUSSIAN GRAIN TRADE.

In the present and succeeding articles I purpose laying before the readers of the "Mark Lane Express" the results of a special inquiry, which I have recently undertaken, as to the causes of the existing depression of the Russian grain trade, and as to the prospects of the trade in view of the recent introduction of the American system of storage at Novo Rossiesk, the new Black Sea port. Those who take an interest in Russian commercial affairs will be aware that at the present time this important question is engaging the serious attention of the Imperial Government. It was the object of the recent tour of that energetic and indefatigable Russian statesman, M. Vishnegradsky, the Minister of Finance, to ascertain, by inquiries made on the spot, the extent of the material resources of Southern Russia, the Caucasus, and the territories of Russia in Central Asia, and especially the development of the grain trade by means of the improved methods of carrying on that trade adopted at the new port above mentioned.

A recent report furnished to M. Vishnegradsky by the Railway Companies states that the main causes of the depression in the Russian grain trade are:—

(1.) The fluctuating value of the rouble, and the uncertainty of the amount of the shipping and railway expenses, which render it impossible for importers and shippers to make reliable calculations.

(2.) The poverty of the peasants and farmers, which compels them to sell their grain immediately it has been gathered.

(3.) The large number of middlemen between the producer and the consumer, and the absence of elevators and magazines for storing grain.

So far as this statement goes it is perfectly correct, but I am surprised to find no allusion in it to a practice which, to my mind, has more to do with the present languishing condition of the trade than any of the conditions above referred to. I refer to the wholesale system of adulterating the grain. It is this abominable custom which has, I believe, eaten away the very life of the trade; and as this is a question affecting British buyers and consumers, it is well that they should possess some reliable information on it. I am informed by a Russian railway official, connected with one of the principal lines in Southern Russia, that his Company is doing quite a large business in carrying to the various grain ports a composition known as "Ostalkee," the avowed purpose of which is the adulteration of the grain prior to shipment. "Ostalkee," in plain English, means "leavings," and consists of the bran, husks, dust, sand, and small particles of straw left after the grain has been threshed. It is bought from the peasants in large quantities and conveyed to the ports for this nefarious purpose in truck-loads at a time. So common has this practice of adulteration become that people have begun to regard it as a natural condition of the trade. The farmers and peasants are not responsible for this malpractice, although they could, of course, and would, if they knew their best interests, minimise it considerably by refusing to sell the ostalkee. The grain, when it leaves their hands, is in good condition and "up to sample" equal, and often superior in quality to the grain of any other exporting country. But it is not long in this condition. The Jewish, Greek, Russian, and Armenian middlemen, into whose hands it then passes, make a practice (as a St Petersburg editor avers, who has written much against the abuses of the present system) of opening each sack that they purchase from the producers, and deducting from it 20 per cent of the pure grain, the place of which they supply with spoilt grain or the rubbish above referred to. In this way they not only make a profit on the mixed parcels, but a clear profit of 20 per cent. on each sack shipped. Nor are these unscrupulous shippers content with having in this way destroyed the once good name of Russian shipments, but, in pursuance of the same suicidal policy, they are doing their best to make Russian agriculture altogether unprofitable. In districts where there are no Railway Companies or banks to make advances on the grain, the great grain houses established at the principal ports have the farmers and peasants completely at their mercy. They form "rings," or "corners," and, having agreed upon a price amongst themselves, telegraph it to their agents in the interior. Thus the producer, the victim of an organised conspiracy, frequently has to sell his grain at a price far below its natural value. A very small portion of the sums which his grain ultimately fetches in London and other markets goes into his pockets, frequently not enough to cover the rent of his land and the costs of production. The greater portion goes towards defraying the great expenses in respect of carriage, freight, warehousing, and in meeting the charges of the middlemen, which, when compared with those of other countries, cannot but be regarded as exorbitant.

But the peasant has not only to contend with unfavourable conditions of outside origin; he has to contend with his own sluggish and easy-going temperament. It is a deplorable fact that the Russian peasant is far too much addicted to vodka, and that he lays hold of any and every excuse for taking a holiday. In short, as a rule, he is not industrious. Further, being ignorant—and for his being ignorant the Government is more responsible than himself—he is conservative in the extreme and consequently averse to trying any of the "foreign inventions" as he terms the labour-saving agricultural machines of Western civilisation. It is difficult even to induce him to abandon his antiquated plough, a large, heavy, and incomplete article, which it takes seven or eight pairs of oxen to put in motion.

With such influences at work without and within, it is scarcely to be wondered at that the condition of the Russian peasant has become one of almost chronic poverty. But if the peasant is in a bad way, the landlord is in a worse, for the latter, since the emancipation of the serfs robbed him of his farm labourers, has gradually gone down hill. The late sudden rise in the value of the rouble seems to have completed his misfortunes; it has driven members of his class into the hands of that just now much-abused nation, the Jews, and have forced others to sell their lands to peasants at almost nominal prices. In some parts of Russia, where the conditions for growing corn are most unfavourable, both landlords and peasants have entirely ceased growing corn for purposes of export. "I am so disgusted with the present state of affairs," said the landlord of an immense estate in Poland to me the other day, "that I am allowing my land to lie fallow; for, at least, if I do not "gain anything, I shall not ruin myself by selling my grain at a loss." One can imagine a farmer in England acting thus, but it is extraordinary to find one doing so in a country where, if anything should prosper, agriculture should. Yet, as things are at present, it is difficult even for a farmer working on his own land to make a profit. A desjation (equal to 2 acres 2 roods 32 poles, English) of the finest land in the Caucasus, suitable for growing wheat, may be leased for a very small sum, and yet the expenses of ploughing, sowing, reaping, and threshing are so heavy that a profit of more than 10 roubles is rarely made. This being the state of affairs, it does not require much acumen to see that something is wrong at the core of the Russian export grain trade; but it is

reassuring to those who have the true interests of that trade at heart to find that M. Vishnegradsky has come back from his visit to Novo Rossiesk and his tour in Central Asia thoroughly convinced on this score, and resolved to give free scope and Government assistance to those who are trying to bring about a reformation of the trade. It is late in the day indeed that this decision has been come to. The present stagnant condition of the grain trade had come to be looked upon as its normal and hopeless condition. When we reflect on the extent of the arable portion of the Russian Empire, and the vastness of the interests involved, the lethargy from which the Government are now tardily awakening was at once inexcusable and well-nigh inexplicable. The fact is that, for the last thirty years, the Tsar and his Ministers have been paying too much attention to the manufacturing interests of the country. They have spent millions in fostering these, have enabled a few manufacturers to become millionaires, but until the present moment never seemed aware that they had any agricultural interests worth looking after. The Tsar is to be congratulated, however, in having, as his Finance Minister, a statesman so painstaking and patriotic as M. Vishnegradsky; and now that this gentleman has become thoroughly alive to the necessities of the situation, he will do his best to make up for lost time. Already something has been done to improve matters; more has been resolved upon, and much is under consideration. What steps have been taken, and what further measures are likely to be adopted, I reserve for future communications; and I hope to show from the remarkable history of the rise of the new port of Novo Rossiesk, which I had the pleasure of visiting this summer, slightly in advance of the Finance Minister, that there are good grounds for the belief that a thorough reform of the Russian grain trade has been successfully initiated, and that it is by no means unlikely, if things go on as they have begun, that America and other grain-exporting countries will soon find it difficult to hold their own with Russia. Perhaps they may even be ousted altogether from European markets.

Novo Rossiesk, the important departure at which is likely to have far-reaching effects on the future of the Russian grain trade, is situate on the Black Sea, at a spot about 100 miles to the east of the Straits of Yenikale, where the western extremity of the Caucasian range approaches the seaboard. In its position at the head of a magnificent natural harbour, with mountains at its rear and sides rising to an altitude of several thousand feet above the level of the sea, their slopes covered with groves of wild apple, pear, plum, and other trees, it presents a remarkable resemblance of the harbour of Palmero. Though possessed of such manifest natural advantages as a port, no attempt was made to utilise it until two years ago. It aspired to be nothing more than a small fishing village, and boasted no other signs of Russian occupation than a few Russian soldiers and officials. Beyond its outskirts Muscovite rule did not extend, or at any rate was not respected. Such of its inhabitants as, in pursuit of game, ventured into the mountains did so at the imminent peril of their lives. These heights were held by Circassian mountaineers, who successfully resisted all attempts to dislodge them from their fastnesses, and who knew no more enjoyable sport than "potting" those luckless members of the garrison who happened to come within range of their rifles.

2. The Rise of Novo Rossiesk.

A different state of things exist now. The troublesome Circassians have given place to Russian, French, German, and Greek settlers, busily making their fortunes; and the quondam fishing village, emerging from its obscurity, has become a thriving grain port of some five thousand inhabitants, with a trade even now only third in extent to that of Odessa.

How this magical transformation has been effected is an instructive history. The good fairy has not been the Government with powder and shot; but that pacific and potent civiliser, the railway. About three or four years ago M. Stanislaus Kerbedz, a Polish engineer of high repute, recognising the possibilities latent in the place, conceived the idea of joining it with the Vladikavkaz Railway (of which he was then a Director) by a branch line to Techoretz. From this station Novo Rossiesk is distant by the route chosen not more than about 300 miles. It lies, however, on the other side of the Caucasian range. To carry the Engineer's project into effect, it became necessary therefore to bore through these mountains. The construction of two long tunnels was found to be inevitable. Such an undertaking would necessarily involve enormous expense, but the Company, strong in their belief in the beneficial effects it would produce, did not hesitate. The work was rapidly pushed forward, arrangements at the same time being made for the reception of the grain; and in August 1888 the port and line were thrown open for traffic. In my visit to the place this summer, starting from St. Petersburg, I, of course, travelled over the new line. The main line begins at Rostov, on the Don, and the portion of it which lies between that port and the junction Techoretz passes through the southern part of the country of the Don Cossacks (Zemlia Boiska Donskago), and thence through the district of the Black Sea Cossacks. A journey of a hundred miles farther on brought me to the River Kuban at Ekaterinodar. Throughout the whole distance from Rostov to this place nothing was to be seen but steppes covered with fields of wheat, the produce of the rich black soil (Tchornee Zom), which extends for hundreds of miles on either side of the line, and pampas plains supplying pasturage for thousands of sheep and cattle, with here and there a Cossack village. After leaving Ekaterinodar, the line passes through a region abounding in oak and wild fruit trees, dotted here and there with plantations of tobacco. So thickly-wooded is this region that it is estimated to comprise about five million acres of oak and other timber. Palm trees and box wood also flourish, and away up the mountain sides rise immense pine forests, already being exploited by French capitalists. As might be expected, these forests and mountains are full of various kinds of wild animals and game. Even within a few hours' walk of Novo Rossiesk, those fond of sport can have as much as they desire. Nor need they fear molestation at

the hands of fanatical Circassians, as these former holders of the mountains have nearly all been shipped off to Turkey. As many as 10,000 of them were, it is stated, so got rid of last year. The territory thus almost depopulated is being rapidly leased or bought up by Greeks and Frenchmen for the cultivation of the vine and the tobacco plant, while near the town itself cement works have been established by some Germans. The rocks round the bay of Novo Rossiesk are formed of a natural cement, requiring only to be crushed to be ready for use, and the astute Teutons, who have found out this fact, are, the English Consul assured me, making at least 60 per cent. on the working.

Living is not dear in Novo Rossiesk. Meat of the finest quality can be purchased there at 2*d.* a pound and a whole ox of the celebrated Circassian breed for 3*l.* or 4*l.*

Fruit for all description abound—pears, apples, melons, grapes, plums, peaches, apricots, and walnuts. A good water-melon costs about 1½*d.*, and a pound of fine grapes about the same amount. The finest tobacco is also grown in large quantities, and is sold at the rate of about 6*d.* a pound It is subject to a slight duty, and the growers are chiefly Greeks, who send it to Rostov, on the Don, at which place it is made up into cigarettes and sold as Turkish at about 14*s.* a pound.

Possessed of such natural advantages, and such varied resources, Novo Rossiesk would have a prosperous future before it, even if it did not afford so convenient an outlet for the grain of the Caucasus, and this consideration doubtless weighed with the Directors of the Vladikavkaz Railway Company when they were deciding as to the construction of the branch line. The main object of the Company, however, was the development of the grain trade of the Caucasus, and it may be said at once that their sanguine anticipations on this head have been more than realised. Indeed, the grain export has advanced literally by leaps and bounds. This satisfactory result is abundantly evidenced by the following table, which gives the amount of grain (including a little flax) loaded at the wharves of the Railway Company for each month, from August 1888, when the port was opened, to June 1889:—

Month.	No. of Steamers.	Tons of Cargo shipped.	Average Cargo per Steamer.
1888.			
August	1	1,580	1,580
September	2	3,455	1,728
October	3	5,439	1,823
November	7	12,873	2,083
December	6	11,249	1,872
Total	19	34,596	1,901
1889.			
January	13	23,534	1,810
February	14	26,676	1,906
March	16	27,909	1,813
April	4	7,392	1,878
May	7	15,214	2,209
June	11	21,422	2,097
Total for first half of 1889	65	122,147	1,968
Total for the eleven months, from August 1888 to June 1889	84	156,743	1,914

[In calculating the average cargo three steamers have been omitted as they did not take a *full* cargo from Novo Rossiesk. They only completed their load there.]

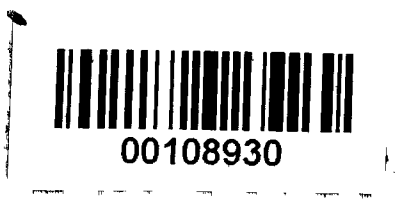
Thus, during the first six months of 1889, nearly four times as much grain was exported as during the five months ended December 1888. Four-fifths of this grain was carried by steamers bearing the English flag. To the figures given above, 25,000 tons must be added as taken up by 100 sailing vessels and coasting steamers. The total turn-over of the port during the first eleven working months of its existence thus exceeded 180,000 tons. This remarkable activity has been maintained. By December 1889 the total exported had reached over 333,000 tons, and by July of the present year over 671,000 tons. The figures for each month of the present year, up to and including July, are as follows, viz.:—

Month.	Tons of Cargo shipped.
January 1890	41,760
February „	42,060
March „	44,480
April „	52,220
May „	53,220
June „	52,450
July „	51,430
Total	337,620

Limited as is the present development of the Caucasus, Novo Rossiesk already has a monthly export of 60,000 tons. What will its export amount to if, and when, all the reforms and projects to which I have referred are fully carried out? It will have become a veritable Chicago. If, too, other Russian ports see the wisdom of adopting its enlightened method of carrying on the grain trade, is it at all unlikely that Russian grain will practically monopolise the European market?

In such a contingency politicians may see a danger. They will argue that it would never do for England to be dependent for her grain supply on a country with which, at any time, she may be at war. I am not concerned, however, to deal here with the political aspect of the question, but will merely state my assured conviction that the closer are drawn the commercial bonds between the two countries, the less likelihood is there of a disruption of their friendly relations.

Bell's "Weekly Messenger," 24th November and 1st December, 1890; 12th and 19th January, 1891.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